Oracle® TimesTen In-Memory Database

System Tables and Views Reference

11*g* Release 2 (11.2.2)

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Oracle TimesTen In-Memory Database System Tables and Views Reference, 11*g* Release 2 (11.2.2)

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Preface

Oracle TimesTen In-Memory Database (TimesTen) is a relational database that is memory-optimized for fast response and throughput. The database resides entirely in memory at runtime and is persisted to disk storage for the ability to recover and restart. Replication features allow high availability. TimesTen supports standard application interfaces JDBC, ODBC, and ODP.NET, in addition to Oracle interfaces, PL/SQL, OCI, and Pro*C/C++. TimesTen is available separately or as a cache for Oracle Database.

Audience

This document is intended for application developers who use and administer TimesTen. It provides a reference for TimesTen system tables, replication tables and system limits.

Related documents

TimesTen documentation is available on the product distribution media and on the Oracle Technology Network:

http://www.oracle.com/technetwork/database/database-technologies/timesten/documentation/index.html

Oracle Database documentation is also available on the Oracle Technology network. This may be especially useful for Oracle Database features that TimesTen supports but does not attempt to fully document.

http://www.oracle.com/pls/db112/homepage/

Conventions

TimesTen supports multiple platforms. Unless otherwise indicated, the information in this guide applies to all supported platforms. The term Windows refers to all supported Windows platforms and the term UNIX applies to all supported UNIX platforms, including Linux. See "Platforms" in *Oracle TimesTen In-Memory Database Release Notes* for specific platform versions supported by TimesTen.

> **Note:** In TimesTen documentation, the terms "data store" and "database" are equivalent. Both terms refer to the TimesTen database.

This document uses the following text conventions:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.
`italic monospace`	Italic monospace type indicates a variable in a code example that you must replace. For example: `Driver=`*`install_dir`*`/lib/libtten.sl` Replace *`install_dir`* with the path of your TimesTen installation directory.
[ ]	Square brackets indicate that an item in a command line is optional.
{ }	Curly braces indicated that you must choose one of the items separated by a vertical bar (|) in a command line.
|	A vertical bar (or pipe) separates alternative arguments.
. . .	An ellipsis (. . .) after an argument indicates that you may use more than one argument on a single command line.
%	The percent sign indicates the UNIX shell prompt.
#	The number (or pound) sign indicates the UNIX root prompt.

TimesTen documentation uses these variables to identify path, file and user names:

Convention	Meaning
`install_dir`	The path that represents the directory where the current release of TimesTen is installed.
`TTinstance`	The instance name for your specific installation of TimesTen. Each installation of TimesTen must be identified at install time with a unique alphanumeric instance name. This name appears in the install path.
`bits` or *`bb`*	Two digits, either 32 or 64, that represent either the 32-bit or 64-bit operating system.
`release` or *`rr`*	The first three parts in a release number, with or without dots. The first three parts of a release number represent a major TimesTen release. For example, 1122 or 11.2.2 represents TimesTen 11*g* Release 2 (11.2.2).
`jdk_version`	Two digits that represent the version number of the major JDK release. Specifically, 14 represent JDK 1.4; 5 represents JDK 5.
`DSN`	The data source name.

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visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs if you are hearing impaired.

What's New

This section summarizes the new features of Oracle TimesTen In-Memory Database 11*g* Release 2 (11.2.2) that are documented in this guide and provides links to more information.

New features in Release 11.2.2.5.0

- New system tables have been added for the PL/SQL package `TT_STATS`. These tables are reserved for internal use:
  - `SYS.SNAPSHOT_DESCRIPTION`
  - `SYS.SNAPSHOT_INFO`
  - `SYS.SNAPSHOT_LATCH_INFO`
  - `SYS.SNAPSHOT_REPL_PEER`
  - `SYS.SNAPSHOT_VALUE_CGGROUP`
  - `SYS.SNAPSHOT_VALUE_CKPTHIST`
  - `SYS.SNAPSHOT_VALUE_CONFIG`
  - `SYS.SNAPSHOT_VALUE_GENERIC`
  - `SYS.SNAPSHOT_VALUE_GRIDMEMBER`
  - `SYS.SNAPSHOT_VALUE_GRIDNODE`
  - `SYS.SNAPSHOT_VALUE_LATCH`
  - `SYS.SNAPSHOT_VALUE_LOGHOLD`
  - `SYS.SNAPSHOT_VALUE_PARAWT`
  - `SYS.SNAPSHOT_VALUE_PLSQL`
  - `SYS.SNAPSHOT_VALUE_REPL`
  - `SYS.SNAPSHOT_VALUE_SQL`
  - `SYS.SNAPSHOT_VALUE_XLA`
  - `SYS.TT_STATS_PARAM`
- The `reclaim cache statistic` table and the `txn.commits.buf.overflowed` system statistic have been added. For more information, see "SYS.SYSTEMSTATS" on page 1-70.

New features in Release 11.2.2.0.0

- New system views have been added:
  - SYS.ALL_TABLES
  - SYS.ALL_TAB_SIZES
  - SYS.ALL_VIEWS
  - SYS.DBA_TABLES
  - SYS.DBA_TAB_SIZES
  - SYS.DBA_VIEWS
  - SYS.USER_TABLES
  - SYS.USER_TAB_SIZES
  - SYS.USER_VIEWS
- New statistics have been added.

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System Tables

TimesTen stores metadata (information about the contents of your database) in system tables in your database.

Information specific to system tables:

- Locks acquired by users on system tables may prevent others from defining data or executing the `SQLPrepare` ODBC function or the `Connection.prepareStatement` JDBC method.
- The last character in name columns is always a space. Therefore, while the column length for name columns is 31, the maximum object name length is 30.
- You need appropriate privileges in order to read rows from the system tables. You cannot modify system tables. For more information on privileges, see "Required privileges to access system tables and views" on page 1-3.
- On 64-bit systems, TimesTen system tables declare certain fields as data type `TT_BIGINT`. When retrieving these columns with an ODBC program, the application must bind them using `SQL_C_BINARY`. For information about `SQL_C_BINARY`, see ODBC documentation.

> **Note:** Some tables contain columns named `SYS`*`number`*. Because these columns contain values used internally by TimesTen, they are not documented in this chapter.

Tables and views reserved for internal or future use

Several system tables and views in TimesTen are reserved for internal or future use. These tables are not described in detail in this chapter:

- `SYS.ACCESS$`
- `SYS.ALL_EXTERNAL_TABLES`
- `SYS.COLUMN_HISTORY`
- `SYS.DIR$`
- `SYS.OBJAUTH$`
- `SYS.REPSTATS`
- `SYS.STATNAMES`
- `SYS.SYN$`
- `SYS.SYSAUTH$`

- SYS.TABLE_HISTORY
- SYS.TAB_SIZES$
- SYS.USER_ASTATUS_MAP
- SYS.V$REPSTATS

PL/SQL system tables are reserved for internal use. Use the PL/SQL system views instead. PL/SQL system tables in TimesTen are:

- SYS.ARGUMENT$
- SYS.DEPENDENCY$
- SYS.ERROR$
- SYS.IDL_CHAR$
- SYS.IDL_SB4$
- SYS.IDL_UB1$
- SYS.IDL_UB2$
- SYS.NCOMP_DLL$
- SYS.OBJ$
- SYS.OBJERROR$
- SYS.PLSCOPE_ACTION$
- SYS.PLSCOPE_IDENTIFIER$
- SYS.PROCEDURE$
- SYS.PROCEDUREINFO$
- SYS.PROCEDUREPLSQL$
- SYS.SETTINGS$
- SYS.SOURCE$
- SYS.USER$
- SYS.WARNING_SETTINGS$

If PL/SQL is enabled in your database, there are tables and views created for the operation of the package UTL_RECOMP:

- SYS.UTL_RECOMP_COMPILED
- SYS.UTL_RECOMP_ERRORS
- SYS.UTL_RECOMP_SORTED
- SYS.UTL_RECOMP_ALL_OBJECTS (PL/SQL view)
- SYS.UTL_RECOMP_INVALID_ALL (PL/SQL view)
- SYS.UTL_RECOMP_INVALID_PARALLEL (PL/SQL view)

These PL/SQL system views are reserved for internal use:

- SYS.CODE_PIECES
- SYS.CODE_SIZE
- SYS.DBA_INVALID_OBJECTS
- SYS.DISK_AND_FIXED_OBJECTS

- SYS.ERROR_SIZE
- SYS.PARSED_PIECES
- SYS.PARSED_SIZE
- SYS.SOURCE_SIZE

These tables are used for the PL/SQL package TT_STATS. The tables are reserved for internal use:

- SYS.SNAPSHOT_DESCRIPTION
- SYS.SNAPSHOT_INFO
- SYS.SNAPSHOT_LATCH_INFO
- SYS.SNAPSHOT_REPL_PEER
- SYS.SNAPSHOT_VALUE_CGGROUP
- SYS.SNAPSHOT_VALUE_CKPTHIST
- SYS.SNAPSHOT_VALUE_CONFIG
- SYS.SNAPSHOT_VALUE_GENERIC
- SYS.SNAPSHOT_VALUE_GRIDMEMBER
- SYS.SNAPSHOT_VALUE_GRIDNODE
- SYS.SNAPSHOT_VALUE_LATCH
- SYS.SNAPSHOT_VALUE_LOGHOLD
- SYS.SNAPSHOT_VALUE_PARAWT
- SYS.SNAPSHOT_VALUE_PLSQL
- SYS.SNAPSHOT_VALUE_REPL
- SYS.SNAPSHOT_VALUE_SQL
- SYS.SNAPSHOT_VALUE_XLA
- SYS.TT_STATS_PARAM

Required privileges to access system tables and views

By default PUBLIC has SELECT privileges on various system tables and views and EXECUTE privileges on various PL/SQL objects. You can see the list of objects by using this query:

```
SELECT * FROM sys.dba_tab_privs WHERE grantee='PUBLIC';
```

The ADMIN or SELECT ANY TABLE privilege is required to access other system tables and views.

SYS.ALL_ARGUMENTS

The ALL_ARGUMENTS view lists the arguments of the procedures and functions that are accessible to the current user.

Related views

- SYS.DBA_ARGUMENTS lists the arguments of the procedures and functions that are available in the database. It has the same columns as ALL_ARGUMENTS.
- SYS.USER_ARGUMENTS describes the arguments of the procedures and functions that are owned by the current user. This view does not display the OWNER column.

Columns

Column name	Type	Description
OWNER	VARCHAR2(30) INLINE	Object owner
OBJECT_NAME	VARCHAR2(30) INLINE	Object name
PACKAGE_NAME	VARCHAR2(30) INLINE	Package name
OBJECT_ID	TT_BIGINT NOT NULL	Object number
OVERLOAD	VARCHAR2(12) INLINE	Overloading Indicates the *n*th overloading ordered by its appearance in the source; otherwise, it is NULL.
SUBPROGRAM_ID	TT_INTEGER	Unique subprogram identifier
ARGUMENT_NAME	VARCHAR2(30) INLINE	Argument name If the argument is a scalar type, then the argument name is the name of the argument. A null argument name denotes a function return. If the function return or argument is a composite type, this view will have one row for each attribute of the composite type. Attributes are recursively expanded if they are composite. The meanings of ARGUMENT_NAME, POSITION, SEQUENCE, and DATA_LEVEL are interdependent. Together, as a row, they represent a node of a flattened tree. ARGUMENT_NAME can refer to: ■ Return type, if ARGUMENT_NAME is NULL and DATA_LEVEL = 0 ■ The argument that appears in the argument list if ARGUMENT_NAME is NOT NULL and DATA_LEVEL = 0 ■ Attribute name of the composite type if ARGUMENT_NAME is NOT NULL and DATA_LEVEL > 0 ■ A collection element type if ARGUMENT_NAME is NULL and DATA_LEVEL > 0

Column name	Type	Description
POSITION	TT_INTEGER NOT NULL	Item position If DATA_LEVEL is 0, then this column contains the position of this item in the argument list, or 0 for a function return value. If DATA_LEVEL is greater than 0, then this column contains the position of this item with respect to its siblings at the same DATA_LEVEL. For a referenced record field, this is the index of the field within the record. For a referenced collection element, this is 1 because collection elements do not have siblings.
SEQUENCE	TT_INTEGER NOT NULL	Argument sequence Defines the sequential order of the argument and its attributes. Argument sequence starts at 1. Return type and its recursively expanded (preorder tree walk) attributes come first, and each argument with its recursively expanded (preorder tree walk) attributes follow.
DATA_LEVEL	TT_INTEGER NOT NULL	Nesting depth of the argument for composite types
DATA_TYPE	VARCHAR2(30) INLINE	Data type of the argument
DEFAULTED	VARCHAR2(1) INLINE NOT NULL	Default status Specifies whether the argument is defaulted.
DEFAULT_VALUE	VARCHAR2(4194304) NOT INLINE	For future use
DEFAULT_LENGTH	TT_INTEGER	For future use
IN_OUT	VARCHAR2(9) INLINE NOT NULL	Direction of the argument: (IN, OUT, IN OUT)
DATA_LENGTH	TT_INTEGER	Length of the argument
DATA_PRECISION	TT_INTEGER	Length in decimal digits (NUMBER) or binary digits (FLOAT)
DATA_SCALE	TT_INTEGER	Digits to the right of the decimal point in a number
RADIX	TT_INTEGER	Argument radix for a number
CHARACTER_SET_NAME	VARCHAR2(16) INLINE	Character set name for the argument
TYPE_OWNER	VARCHAR2(30) INLINE	Owner of the type of the argument
TYPE_NAME	VARCHAR2(30) INLINE	Name of the type of the argument If the type is a package local type (declared in a package specification), then the column displays the name of the package.
TYPE_SUBNAME	VARCHAR2(30) INLINE	Declared type This is relevant for package local types. Displays the name of the type declared in the package identified in the TYPE_NAME column.

Column name	Type	Description
TYPE_LINK	VARCHAR2(128) INLINE	Database link This is relevant for package local types when the package identified in the TYPE_NAME column is a remote package. This column displays the database link used to refer to the remote package. TimesTen ignores this value because remote packages are not supported.
PLS_TYPE	VARCHAR2(30) INLINE	For numeric arguments, the name of the PL/SQL type of the argument Otherwise, NULL
CHAR_LENGTH	NUMBER	Character limit for string data types
CHAR_USED	VARCHAR2(1) INLINE NOT NULL	B for byte limit or C for character limit for the string

SYS.ALL_COL_PRIVS

This view returns no rows. The column definitions are the same as the column definitions for the SYS.ALL_COL_PRIVS view in the Oracle Database. See *Oracle Database Reference*.

Related views

- SYS.DBA_COL_PRIVS returns no rows.
- SYS.USER_COL_PRIVS returns no rows.

SYS.ALL_DEPENDENCIES

The ALL_DEPENDENCIES view describes dependencies between procedures, packages, functions, package bodies, and triggers accessible to the current user.

Related views

- SYS.DBA_DEPENDENCIES describes all dependencies between objects in the database.
- SYS.USER_DEPENDENCIES describes dependencies between objects that are owned by the current user.

Columns

Column name	Type	Description
OWNER	VARCHAR2(30) INLINE	Object owner
NAME	VARCHAR2(30) INLINE	Object name
TYPE	VARCHAR2(17) INLINE NOT NULL	Object type
REFERENCED_OWNER	VARCHAR2(30) INLINE	Owner of the referenced object
REFERENCED_NAME	VARCHAR2(30) INLINE	Name of the referenced object
REFERENCED_TYPE	VARCHAR2(17) INLINE NOT NULL	Type of the referenced object
REFERENCED_LINK_NAME	VARCHAR2(128) INLINE	Unused (Column unused by TimesTen. Ignore value.)
DEPENDENCY_TYPE	VARCHAR2(4) INLINE NOT NULL	REF for REF dependency HARD otherwise

SYS.ALL_DIRECTORIES

The ALL_DIRECTORIES view describes all directories accessible to the current user.

Related views

SYS.DBA_DIRECTORIES describes all directories in the database. It has the same columns as ALL_DIRECTORIES.

Columns

Column name	Type	Description
OWNER	VARCHAR2(30) INLINE	Directory owner
DIRECTORY_NAME	VARCHAR2(30) INLINE	Directory name
DIRECTORY_PATH	VARCHAR2(4000) NOT INLINE	Directory path

SYS.ALL_ERRORS

The ALL_ERRORS describes the current errors on the stored objects accessible to the current user.

Related views

- SYS.DBA_ERRORS describes the current errors on all stored objects in the database. It has the same columns as ALL_ERRORS.
- SYS.USER_ERRORS describes the current errors on the stored objects that are owned by the current user. This view does not display the OWNER column.

Columns

Column name	Type	Description
OWNER	VARCHAR2(30) INLINE	Object owner
NAME	VARCHAR2(30) INLINE	Object name
TYPE	VARCHAR2(12) INLINE NOT NULL	Object type (such as PROCEDURE, FUNCTION, PACKAGE)
SEQUENCE	TT_INTEGER NOT NULL	Sequence number (for ordering purposes)
LINE	TT_INTEGER NOT NULL	Line number at which the error occurred
POSITION	TT_INTEGER NOT NULL	Position in line at which the error occurred
TEXT	VARCHAR2(4000) NOT INLINE NOT NULL	Text of the error
ATTRIBUTE	VARCHAR2(9) INLINE NOT NULL	Error classification: ERROR or WARNING
MESSAGE_NUMBER	TT_INTEGER	Numeric error number (without any prefix)

SYS.ALL_IDENTIFIERS

The ALL_IDENTIFIERS view displays information about the identifiers in the stored objects accessible to the current user.

Related views

- SYS.DBA_IDENTIFIERS displays information about the identifiers in all stored objects in the database. It has the same columns as ALL_IDENTIFIERS.
- SYS.USER_IDENTIFIERS describes the identifiers for all stored objects that are owned by the current user. This view does not display the OWNER column.

Columns

Column name	Type	Description
OWNER	VARCHAR2(30) INLINE	Identifier owner
NAME	VARCHAR2(30) INLINE	Identifier name
SIGNATURE	CHAR(32)	Signature of the identifier
TYPE	VARCHAR2(18) INLINE NOT NULL	Identifier type
OBJECT_NAME	VARCHAR2(30) INLINE	Name of the object where the identifier action occurred
OBJECT_TYPE	VARCHAR2(12) INLINE NOT NULL	Type of the object where the identifier action occurred
USAGE	VARCHAR2(11) INLINE NOT NULL	Type of the identifier usage (declaration, definition, call, reference, assignment)
USAGE_ID	TT_INTEGER	Unique key for the identifier usage within the object
LINE	TT_INTEGER	Line number of the identifier action
COL	TT_INTEGER	Column number of the identifier action
USAGE_CONTEXT_ID	TT_INTEGER	Context USAGE_ID of the identifier usage

SYS.ALL_OBJECTS

The ALL_OBJECTS view describes all objects in the database that are accessible to the current user.

Note: This view does not include synonyms in databases created with a TimesTen release earlier than 11.2.1.4.0.

Related views

- SYS.DBA_OBJECTS describes all objects in the database. It has the same columns as ALL_OBJECTS.
- SYS.USER_OBJECTS describes all objects owned by the current user. This view does not display the OWNER column.

Columns

Column name	Type	Description
OWNER	VARCHAR2(30) INLINE	Object owner
OBJECT_NAME	VARCHAR2(30) INLINE	Object name
SUBOBJECT_NAME	VARCHAR2(30) INLINE	Unused (Column unused by TimesTen. Ignore value.)
OBJECT_ID	TT_BIGINT NOT NULL	Dictionary object number of the object
DATA_OBJECT_ID	TT_BIGINT	Unused (Column unused by TimesTen. Ignore value.)
OBJECT_TYPE	VARCHAR2(17) INLINE NOT NULL	Object type (such as PROCEDURE, FUNCTION)
CREATED	DATE NOT NULL	Timestamp for creation of object
LAST_DDL_TIME	DATE NOT NULL	Timestamp for the last modification of the object resulting from a DDL statement
TIMESTAMP	VARCHAR2(78) INLINE NOT NULL	Timestamp for the specification of the object (character data)
STATUS	VARCHAR2(7) INLINE NOT NULL	Status of the object (VALID, INVALID, or N/A)
TEMPORARY	VARCHAR2(1) INLINE NOT NULL	Y for temporary object; N otherwise The current session can see only data that it placed in this object itself. The value is always 'Y'.
GENERATED	VARCHAR2(1) INLINE NOT NULL	Y for system-generated object; N otherwise The value is always 'N'.
SECONDARY	VARCHAR2(1) INLINE NOT NULL	Y if there is a secondary object created by the ODCIIndexCreate method of the Oracle Data Cartridge; N otherwise The value is always 'N'.
NAMESPACE	TT_INTEGER NOT NULL	Namespace for the object

Column name	Type	Description
EDITION_NAME	VARCHAR2(30) INLINE	Unused (Column unused by TimesTen. Ignore value.)

SYS.ALL_PLSQL_OBJECT_SETTINGS

The ALL_PLSQL_OBJECT_SETTINGS view displays information about the compiler settings for the stored objects accessible to the current user.

Related views

- SYS.DBA_PLSQL_OBJECT_SETTINGS displays information about the compiler settings for all stored objects in the database. It has the same columns as ALL_PLSQL_OBJECT_SETTINGS.
- SYS.USER_PLSQL_OBJECT_SETTINGS describes compiler settings for all stored objects that are owned by the current user. This view does not display the OWNER column.

Columns

Column name	Type	Description
OWNER	VARCHAR2(30) INLINE	Object owner
NAME	VARCHAR2(30) INLINE	Object name
TYPE	VARCHAR2(12) INLINE NOT NULL	Object type (such as PROCEDURE, FUNCTION)
PLSQL_OPTIMIZE_LEVEL	NUMBER	Optimize level used to compile the object
PLSQL_CODE_TYPE	VARCHAR2(4000) NOT INLINE	Compilation mode for the object
PLSQL_DEBUG	VARCHAR2(4000) NOT INLINE	Indication of whether the object was compiled with debug information
PLSQL_WARNINGS	VARCHAR2(4000) NOT INLINE	Compiler warning settings that were used to compile the object
NLS_LENGTH_SEMANTICS	VARCHAR2(4000) NOT INLINE	NLS length semantics that were used to compile the object
PLSQL_CCFLAGS	VARCHAR2(4000) NOT INLINE	Conditional compilation flag settings that were used to compile the object
PLSCOPE_SETTINGS	VARCHAR2(4000) NOT INLINE	Specification of whether the PL/SQL compiler generates cross-reference information

SYS.ALL_PROCEDURES

The ALL_PROCEDURES view describes all PL/SQL functions and procedures, along with associated properties, that are accessible to the current user.

Related views

- SYS.DBA_PROCEDURES describes all PL/SQL functions and procedures, along with associated properties. It has the same columns as ALL_PROCEDURES.
- SYS.USER_PROCEDURES describes all functions and procedures, along with associated properties that are owned by the current user. This view does not display the OWNER column.

Columns

Column name	Type	Description
OWNER	VARCHAR2(30) INLINE	Owner of the procedure or function
OBJECT_NAME	VARCHAR2(30) INLINE	Name of the object: top-level function, procedure or package name
PROCEDURE_NAME	VARCHAR2(30) INLINE	Name of the procedure or function
OBJECT_ID	TT_BIGINT NOT NULL	Object number
SUBPROGRAM_ID	NUMBER	Unique subprogram identifier
OVERLOAD	VARCHAR2(12) INLINE	Overload unique identifier
OBJECT_TYPE	VARCHAR2(17) INLINE	Object type
AGGREGATE	VARCHAR2(3) INLINE	YES if the object is an aggregate function; NO otherwise TimesTen does not support aggregate functions, so value is NO.
PIPELINED	VARCHAR2(3)INLINE	YES if the object is a pipelined table; NO otherwise TimesTen does not support PIPELINED, so value is NO.
IMPLTYPEOWNER	VARCHAR2(30) INLINE	Name of owner of the implementation type, if any
IMPLTYPENAME	VARCHAR2(30) INLINE	Name of the implementation type, if any
PARALLEL	VARCHAR2(3) INLINE	YES if the procedure or function is parallel-enabled; NO otherwise TimesTen does not support PARALLEL, so value is NO. You can specify the *parallel_enable_clause*, but it has no effect.
INTERFACE	VARCHAR2(3) INLINE	YES, if the procedure or function is a table function implemented using the Oracle Data Cartridge Interface (ODCI) NO, otherwise TimesTen does not support ODCI so value is NO.

Column name	Type	Description
DETERMINISTIC	VARCHAR2(3) INLINE	YES, if the procedure or function is declared to be deterministic NO, otherwise
AUTHID	VARCHAR2(12) INLINE NOT NULL	DEFINER if the procedure or function is declared to execute as definer CURRENT_USER if the procedure or function is declared to execute as invoker

SYS.ALL_SOURCE

The ALL_SOURCE view describes the text source of the stored objects accessible to the current user.

Related views

- SYS.DBA_SOURCE describes the text source of all stored objects. It has the same columns as ALL_SOURCE.
- SYS.USER_SOURCE describes the text source of the stored objects that are owned by the current user. This view does not display the OWNER column.

Columns

Column name	Type	Description
OWNER	VARCHAR2(30) INLINE	Object owner
NAME	VARCHAR2(30) INLINE	Object name
TYPE	VARCHAR2(12) INLINE NOT NULL	Object type (such as PROCEDURE, FUNCTION, PACKAGE)
LINE	TT_INTEGER NOT NULL	Line number of this line of source
TEXT	VARCHAR2(4000) NOT INLINE	Text source of the stored object

SYS.ALL_STORED_SETTINGS

The ALL_STORED_SETTINGS view describes the persistent parameter settings for stored PL/SQL units for which the current user has execute privileges.

ALL_STORED_SETTINGS is retained for backward compatibility. Use the ALL_PLSQL_OBJECT_SETTINGS view instead.

Related views

- SYS.DBA_STORED_SETTINGS describes the persistent parameter settings for stored PL/SQL units for which the current user has execute privileges. It also returns parameter information for all objects in the database.
- SYS.USER_STORED_SETTINGS describes the persistent parameter settings for stored PL/SQL units, but only shows information about PL/SQL units owned by the current user.

Columns

Column name	Type	Description
OWNER	VARCHAR2(30) INLINE	Name of the database user owning the stored PL/SQL unit
OBJECT_NAME	VARCHAR2(30) INLINE	Name of the PL/SQL unit
OBJECT_ID	TT_BIGINT NOT NULL	Object number of the PL/SQL unit
OBJECT_TYPE	VARCHAR2(12) INLINE NOT NULL	The type of the PL/SQL unit: PROCEDURE,FUNCTION, PACKAGE or PACKAGE BODY
PARAM_NAME	VARCHAR2(30) INLINE NOT NULL	The name of the parameter stored persistently with the PL/SQL unit
PARAM_VALUE	VARCHAR2(4000) NOT INLINE	The TO_CHAR () representation of the value of the persistently stored parameter The width of this column is operating system dependent, but it is at least 255.

SYS.ALL_SYNONYMS

The ALL_SYNONYMS view describes the synonyms accessible to the current user. These criteria determine the list of synonyms that ALL_SYNONYMS shows:

- All private synonyms owned by the logged-in user, even if the base object is not accessible to the user.
- All public synonyms, even if the base object is not accessible to the user.
- All private synonyms owned by a different user, where the base object pointed to by the synonym or by nested synonyms is known to be accessible because of a grant to the logged-in user.

The base object can be a table, view, synonym, index, sequence, PL/SQL stored procedure, PL/SQL function, PL/SQL package, materialized view or cache group.

Related views

- SYS.DBA_SYNONYMS describes all synonyms in the database.
- SYS.USER_SYNONYMS describes the synonyms owned by the current user. This view does not display the OWNER column.

Columns

Column name	Type	Description
OWNER	VARCHAR2(30) INLINE	Owner of the synonym
SYNONYM_NAME	VARCHAR2(30) INLINE	Name of the synonym
TABLE_OWNER	VARCHAR2(30) INLINE	Owner of the object referenced by the synonym, or creator of the referring synonym if the target is a public synonym
TABLE_NAME	VARCHAR2(30) INLINE	Name of the object referenced by the synonym
DB_LINK	VARCHAR2(128) INLINE	Unused This is reserved for future use. The value is always NULL.

SYS.ALL_TABLES

The ALL_TABLES view describes all tables accessible to the current user. The column names and data types are the same as the Oracle Database. TimesTen returns NULL for some columns that are not supported in TimesTen. You should ignore such columns. See the Description column in the Columns table.

Related views

- SYS.DBA_TABLES describes all tables in the database.
- SYS.USER_TABLES describes all tables in the database that are owned by the current user.

Columns

Column name	Type	Description
OWNER	VARCHAR2(30) INLINE	Owner of the table
TABLE_NAME	VARCHAR2(30) INLINE	Name of the table
TABLESPACE_NAME	VARCHAR2(30) INLINE	Unused (Column unused by TimesTen. Ignore value.)
CLUSTER_NAME	VARCHAR2(30) INLINE	Unused (Column unused by TimesTen. Ignore value.)
IOT_NAME	VARCHAR2(30) INLINE	Unused (Column unused by TimesTen. Ignore value.)
STATUS	VARCHAR2(8) INLINE NOT NULL	If a previous DROP TABLE operation failed, indication of whether the table is UNUSABLE or VALID
PCT_FREE	NUMBER	Unused (Column unused by TimesTen. Ignore value.)
PCT_USED	NUMBER	Unused (Column unused by TimesTen. Ignore value.)
INI_TRANS	NUMBER	Unused (Column unused by TimesTen. Ignore value.)
MAX_TRANS	NUMBER	Unused (Column unused by TimesTen. Ignore value.)
INITIAL_EXTENT	NUMBER	Unused (Column unused by TimesTen. Ignore value.)

Column name	Type	Description
NEXT_EXTENT	NUMBER	Unused (Column unused by TimesTen. Ignore value.)
MIN_EXTENTS	NUMBER	Unused (Column unused by TimesTen. Ignore value.)
MAX_EXTENTS	NUMBER	Unused (Column unused by TimesTen. Ignore value.)
PCT_INCREASE	NUMBER	Unused (Column unused by TimesTen. Ignore value.)
FREELISTS	NUMBER	Unused (Column unused by TimesTen. Ignore value.)
FREELIST_GROUPS	NUMBER	Unused (Column unused by TimesTen. Ignore value.)
LOGGING	VARCHAR2(3) INLINE NOT NULL	YES if changes to the table are logged NO if changes to the table are not logged
BACKED_UP	VARCHAR2(1) INLINE	Unused (Column unused by TimesTen. Ignore value.)
NUM_ROWS	NUMBER	Number of rows
BLOCKS	NUMBER	Unused (Column unused by TimesTen. Ignore value.)
EMPTY_BLOCKS	NUMBER	Unused (Column unused by TimesTen. Ignore value.)
AVG_SPACE	NUMBER	Unused (Column unused by TimesTen. Ignore value.)
CHAIN_CNT	NUMBER	Unused (Column unused by TimesTen. Ignore value.)
AVG_ROW_LEN	NUMBER	Unused (Column unused by TimesTen. Ignore value.)
AVG_SPACE_FREELIST_BLOCKS	NUMBER	Unused (Column unused by TimesTen. Ignore value.)

Column name	Type	Description
NUM_FREELIST_BLOCKS	NUMBER	Unused (Column unused by TimesTen. Ignore value.)
DEGREE	VARCHAR2(10) INLINE	Unused (Column unused by TimesTen. Ignore value.)
INSTANCES	VARCHAR2(10) INLINE	Unused (Column unused by TimesTen. Ignore value.)
CACHE	VARCHAR2(5) INLINE	Unused (Column unused by TimesTen. Ignore value.)
TABLE_LOCK	VARCHAR2(8) INLINE	Unused (Column unused by TimesTen. Ignore value.)
SAMPLE_SIZE	NUMBER	Unused (Column unused by TimesTen. Ignore value.)
LAST_ANALYZED	DATE	Unused (Column unused by TimesTen. Ignore value.)
PARTITIONED	VARCHAR2(3) INLINE NOT NULL	Value of NO TimesTen does not support partitioned tables.
IOT_TYPE	VARCHAR2(12) INLINE	Unused (Column unused by TimesTen. Ignore value.)
TEMPORARY	VARCHAR2(1) INLINE NOT NULL	Y if temporary table N otherwise
SECONDARY	VARCHAR2(1) INLINE NOT NULL	Unused Value returned is N. (Column unused by TimesTen. Ignore value.)
NESTED	VARCHAR2(3) INLINE NOT NULL	Unused Value returned is NO. TimesTen does not support nested tables. (Column unused by TimesTen. Ignore value.)
BUFFER_POOL	VARCHAR2(7) INLINE NOT NULL	Unused Value returned is DEFAULT. (Column unused by TimesTen. Ignore value.)
FLASH_CACHE	VARCHAR2(7) INLINE NOT NULL	Unused Value returned is DEFAULT. (Column unused by TimesTen. Ignore value.)

Column name	Type	Description
CELL_FLASH_CACHE	VARCHAR2(7) INLINE NOT NULL	Unused Value returned is DEFAULT. (Column unused by TimesTen. Ignore value.)
ROW_MOVEMENT	VARCHAR2(8) INLINE NOT NULL	Unused Value returned is DISABLED. (Column unused by TimesTen. Ignore value.)
GLOBAL_STATS	VARCHAR2(3) INLINE NOT NULL	Unused Value returned is NO. (Column unused by TimesTen. Ignore value.)
USER_STATS	VARCHAR2(3) INLINE	Unused (Column unused by TimesTen. Ignore value.)
DURATION	VARCHAR2(15) INLINE	Duration of a temporary table If value returned is SYS$SESSION, rows are preserved for the duration of the session. If value returned is SYS$TRANSACTION, rows are deleted after COMMIT. If value returned is NULL, table is not a temporary table.
SKIP_CORRUPT	VARCHAR2(8) INLINE NOT NULL	Unused Value returned is DISABLED. (Column unused by TimesTen. Ignore value.)
MONITORING	VARCHAR2(3) INLINE NOT NULL	Unused Value returned is NO. (Column unused by TimesTen. Ignore value.)
CLUSTER_OWNER	VARCHAR2(30) INLINE	Unused (Column unused by TimesTen. Ignore value.)
DEPENDENCIES	VARCHAR2(8) INLINE NOT NULL	Unused Value returned is DISABLED. (Column unused by TimesTen. Ignore value.)
COMPRESSION	VARCHAR2(8) INLINE NOT NULL	Status of table compression (ENABLED or DISABLED)
COMPRESS_FOR	VARCHAR2(12) INLINE	QUERY HIGH if compression is enabled NULL otherwise
DROPPED	VARCHAR2(3) INLINE NOT NULL	Unused Value returned is NO. (Column unused by TimesTen. Ignore value.)

Column name	Type	Description
READ_ONLY	VARCHAR2(3) INLINE	Unused Value returned is NULL. (Column unused by TimesTen. Ignore value.)
SEGMENT_CREATED	VARCHAR2(3)INLINE NOT NULL	Unused Value returned is YES. (Column unused by TimesTen. Ignore value.)
RESULT_CACHE	VARCHAR2(7) INLINE NOT NULL	Unused Value returned is DEFAULT. (Column unused by TimesTen. Ignore value.)

SYS.ALL_TAB_PRIVS

The ALL_TAB_PRIVS view lists the object privileges granted to the current user, the object privileges granted by the current user, the list of object privileges granted for objects owned by the current user and the object privileges granted to PUBLIC.

Related views

- SYS.DBA_TAB_PRIVS describes all object grants in the database.
- SYS.USER_TAB_PRIVS describes the object grants for which the current user is the object owner, grantor, or grantee.

Columns

Column name	Type	Description
GRANTOR	VARCHAR2(30) INLINE	Name of the user who granted the privilege
GRANTEE	VARCHAR2(30) INLINE	Name of the user who has the privilege
TABLE_SCHEMA	VARCHAR2(30) INLINE	Object owner
TABLE_NAME	VARCHAR2(30) INLINE	Object name
PRIVILEGE	VARCHAR2(40) INLINE NOT NULL	Privilege name
GRANTABLE	VARCHAR2(3) INLINE NOT NULL	Value NO
HIERARCHY	VARCHAR2(3) INLINE NOT NULL	Value NO

SYS.ALL_TAB_SIZES

The ALL_TAB_SIZES view contains information about the size of tables that are accessible to the current user. This view also includes information on the size of materialized views and cache tables.

Related views

- SYS.DBA_TAB_SIZES contains the information about the size of tables and materialized views that are available in the database. It has the same columns as SYS.ALL_TAB_SIZES.
- SYS.USER_TAB_SIZES contains the information about the size of tables and materialized views that are owned by the current user. This view does not contain the OWNER column.

Columns

Column name	Type	Description
OWNER	VARCHAR2(30) INLINE	Owner of table or materialized view
TABLE_NAME	VARCHAR2(30) INLINE	Name of table or materialized view
INLINE_ALLOC_BYTES	TT_BIGINT NOT NULL	The amount of bytes allocated for row pages for the table (inline values)
NUM_USED_ROWS	TT_BIGINT NOT NULL	The number of rows that are active or unlinked (pending deletes or updates) This column has different semantics than column NUMTUPS in SYS.TABLES. For more information on SYS.TABLES, see "SYS.TABLES" on page 1-79.
NUM_FREE_ROWS	TT_BIGINT NOT NULL	The number of rows that can be inserted into the table without additional allocation cost This does not include the cost of inserted out-of-line values.
AVG_ROW_LEN	TT_BIGINT	The average amount of bytes used to store a row This value considers utilization of row pages, out-of-line buffers and system metadata.
OUT_OF_LINE_BYTES	TT_BIGINT	The sum of the sizes of out-of-line buffers that store varying character values for the table
METADATA_BYTES	TT_BIGINT NOT NULL	Size of internal data structures for system usage Compressed tables contain a dictionary that includes the distinct compressed values. These values are considered part of the metadata.

Column name	Type	Description
TOTAL_BYTES	TT_BIGINT	The sum of INLINE_ALLOC_BYTES, OUT_OF_LINE_BYTES, and METADATA_BYTES If OUT_OF_LINE_BYTES is NULL then the value of this column is NULL.
LAST_UPDATED	TT_TIMESTAMP NOT NULL	Time of last update

SYS.ALL_USERS

The ALL_USERS view lists all users of the database that are visible to the current user.

Related views

- SYS.DBA_USERS describes all users of the database and contains more columns than ALL_USERS.
- SYS.USER_USERS describes the current user of the database and contains more columns than ALL_USERS.

Columns

Column name	Type	Description
USERNAME	VARCHAR2(30) INLINE	Name of the user
USER_ID	TT_INTEGER NOT NULL	ID number of the user
CREATED	TT_TIMESTAMP NOT NULL	Date the user was created

SYS.ALL_VIEWS

The SYS.ALL_VIEWS view describes all views accessible to the current user. The column names and data types are the same as the Oracle database. TimesTen returns NULL for some columns that are not supported in TimesTen. You should ignore such columns. See the Description column in the Columns table.

Related views

- SYS.DBA_VIEWS describes all views in the database.
- SYS.USER_VIEWS describes all views in the database that are owned by the current user.

Columns

Column name	Type	Description
OWNER	VARCHAR2(30) INLINE	Owner of the view
VIEW_NAME	VARCHAR2(30) INLINE	Name of the view
TEXT_LENGTH	NUMBER	Length of the view text
TEXT	VARCHAR2(409600) NOT INLINE	View text
TYPE_TEXT_LENGTH	NUMBER	Unused (Column unused by TimesTen. Ignore value.)
TYPE_TEXT	VARCHAR2(4000) NOT INLINE	Unused (Column unused by TimesTen. Ignore value.)
OID_TEXT_LENGTH	NUMBER	Unused (Column unused by TimesTen. Ignore value.)
OID_TEXT	VARCHAR2(4000) NOT INLINE	Unused (Column unused by TimesTen. Ignore value.)
VIEW_TYPE_OWNER	VARCHAR2(30) INLINE	Unused (Column unused by TimesTen. Ignore value.)
VIEW_TYPE	VARCHAR2(30) INLINE	Unused (Column unused by TimesTen. Ignore value.)
SUPERVIEW_NAME	VARCHAR2(30) INLINE	Unused (Column unused by TimesTen. Ignore value.)
EDITIONING_VIEW	VARCHAR2(1) INLINE NOT NULL	Unused Value returned is N. (Column unused by TimesTen. Ignore value.)

Column name	Type	Description
READ_ONLY	VARCHAR2(1) INLINE NOT NULL	Unused Value returned is Y. (Column unused by TimesTen. Ignore value.)

SYS.CACHE_GROUP

The CACHE_GROUP table describes the definition of a TimesTen cache.

Columns

Column name	Type	Description
CGNAME	TT_CHAR(31) NOT NULL	Group name
CGOWNER	TT_CHAR(31) NOT NULL	Group owner
CGID	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	ID of this cache group
ROOT	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	Unique identifier for cache group's root table
SOURCE	TT_CHAR(8) NOT NULL	Data source for caching The only legal value is 'ORACLE'.
CGDURATION	TT_INTEGER NOT NULL	Internal use.
TBLCNT	TT_SMALLINT NOT NULL	Number of tables in cache group
REFRESH_MODE	TT_CHAR(1) NOT NULL	The current autorefresh mode 'N': No autorefresh 'I': Incremental autorefresh 'F': Full autorefresh
REFRESH_STATE	TT_CHAR(1) NOT NULL	The current autorefresh mode 'N': Off 'Y': On 'P': Paused
REFRESH_INTERVAL	TT_BIGINT NOT NULL	Autorefresh interval in milliseconds
CGATTRIBUTES	BINARY(4) NOT NULL	Bits 0-7 for cache group types Bits 8-15 for autoload options Bit 0: 1 - READONLY Bit 1: 1 - SYNCHRONOUS WRITETHROUGH Bit 2: 1 - AUTOREFRESH Bit 3: 1 - PROPAGATE Bit 8: 1 - autoload on create (Always 1 for AUTOREFRESH) Bit 9: 1 - dynamic cache group

Column name	Type	Description
REFRESH_WITH_LIMIT	TT_INTEGER NOT NULL	The maximum number of autorefresh change log records kept in the trigger log table in the Oracle database A larger value causes the autorefresh to use more space in the Oracle database, while it prevents the truncation of logs that are not autorefreshed to TimesTen yet, and therefore reduces the possible fallback to full refresh. The field is used only by incremental autorefresh.
CVGRIDID	TT_INTEGER NOT NULL	Unique grid ID among grids whose members contain global AWT cache groups
GRIDINFO	VARBINARY(409600) NOT INLINE	Internal use
ORATOP	TT_VARCHAR(409600) NOT INLINE	Future use
ORAPROXY	TT_VARCHAR(409600) NOT INLINE	Future use
ORABASE	TT_VARCHAR(409600) NOT INLINE	Future use
TTALIAS	TT_VARCHAR(409600) NOT INLINE	Future use

SYS.COLUMNS

The COLUMNS table describes every column in every table in the database, including the name of the column, the type of the column and whether the column is nullable.

Columns

Column name	Type	Description
ID	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	Same as SYS.TABLES.TBLID of the table that owns the column
COLNUM	TT_SMALLINT NOT NULL	Ordinal number of the column as specified when the table is created or subsequently altered
COLNAME	TT_CHAR(31) NOT NULL	Column name
COLOPTIONS	BINARY(1) NOT NULL	Column specification flags 0x01 - Column is in a primary key. 0x02 - Column value is varying-length (VARCHAR[2], NVARCHAR[2],VARBINARY). 0x04 - Column value can be NULL. 0x08 - Column values are unique.
COLTYPE	TT_TINYINT NOT NULL	Data type of column 1 TT_SMALLINT 2 TT_INTEGER 3 BINARY_FLOAT 4 BINARY_DOUBLE 5 TT_CHAR 6 TT_VARCHAR 7 BINARY 8 VARBINARY 11 TT_DECIMAL 12 TT_NCHAR 13 TT_NVARCHAR 14 TT_DATE 15 TIME 16 TT_TIMESTAMP 20 TT_TINYINT 21 TT_BIGINT 22 TT_VARCHAR (inline) 23 VARBINARY (inline) 24 TT_NVARCHAR (inline) 25 NUMBER 26 CHAR 27 VARCHAR2 28 NCHAR 29 NVARCHAR2 30 DATE 31 TIMESTAMP 32 VARCHAR2 (inline) 33 NVARCHAR2 (inline) 34 ROWID 36 CLOB 37 NCLOB 38 BLOB

Column name	Type	Description
TYPE_ATTR	TT_INTEGER NOT NULL	Internal use
COLLEN	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	Length of the column (maximum length for varying-length columns)
INLINELEN	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	Number of bytes a given column contributes to the inline width of a row
REPUSERID	TT_INTEGER NOT NULL	User-defined identifier for column (set with ttSetUserColumnID built-in procedure)
DEFAULTVALSTR	TT_VARCHAR(409600) NOT INLINE	The default column value
CHAR_USED	TT_CHAR(1)	Semantics for the column 'B' for BYTE 'C' for CHAR NULL for non-character columns

SYS.COL_STATS

The COL_STATS table stores the statistics for table columns in the database. Statistics include the number of unique values, number of nulls, number of rows and other information regarding the distribution of column values. No values are present if statistics have not been computed.

Columns

Column name	Type	Description
TBLID	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	TimesTen table identifier
COLNUM	TT_SMALLINT NOT NULL	Ordinal number of column in table (starting at 1)
INFO	VARBINARY(4194304) NOT INLINE NOT NULL	Binary representative of the column value distribution information See "ttOptUpdateStats" in *Oracle TimesTen In-Memory Database Reference* for an explanation of the distribution information stored in this column. A text representation of this information can be retrieved using the ttOptGetColStats built-in procedure.

SYS.DBA_ARGUMENTS

DBA_ARGUMENTS lists the arguments of the procedures and functions that are available in the database. It has the same columns as SYS.ALL_ARGUMENTS.

Related views

- SYS.ALL_ARGUMENTS
- SYS.USER_ARGUMENTS

SYS.DBA_COL_PRIVS

This view returns no rows. The column definitions are the same as the column definitions for the SYS.DBA_COL_PRIVS view in the Oracle Database. See *Oracle Database Reference*.

Required privileges

ADMIN

Related views

- SYS.ALL_COL_PRIVS returns no rows.
- SYS.USER_COL_PRIVS returns no rows.

SYS.DBA_DEPENDENCIES

DBA_DEPENDENCIES describes all dependencies between objects in the database. See "SYS.ALL_DEPENDENCIES" on page 1-8 for column descriptions.

Related views

- SYS.ALL_DEPENDENCIES
- SYS.USER_DEPENDENCIES

SYS.DBA_DIRECTORIES

DBA_DIRECTORIES describes all directories in the database. It has the same columns as SYS.ALL_DIRECTORIES.

Related views

SYS.ALL_DIRECTORIES

SYS.DBA_ERRORS

DBA_ERRORS describes the current errors on all stored objects in the database. It has the same columns as SYS.ALL_ERRORS.

Related views

- SYS.ALL_ERRORS
- SYS.USER_ERRORS

SYS.DBA_IDENTIFIERS

DBA_IDENTIFIERS displays information about the identifiers in all stored objects in the database. It has the same columns as SYS.ALL_IDENTIFIERS.

Related views

- SYS.ALL_IDENTIFIERS
- SYS.USER_IDENTIFIERS

SYS.DBA_OBJECTS

DBA_OBJECTS describes all objects in the database. It has the same columns as SYS.ALL_OBJECTS.

Related views

- SYS.ALL_OBJECTS
- SYS.USER_OBJECTS

SYS.DBA_OBJECT_SIZE

The DBA_OBJECT_SIZE view describes the size, in bytes, of PL/SQL objects.

Related views

SYS.USER_OBJECT_SIZE does not display the OWNER column.

Columns

Column name	Type	Description
OWNER	VARCHAR2(30) INLINE	Object owner
NAME	VARCHAR2(30) INLINE	Object name
TYPE	VARCHAR2(12) INLINE NOT NULL	Object type (such as PROCEDURE, FUNCTION, PACKAGE)
SOURCE_SIZE	NUMBER NOT NULL	Size of the source in bytes Must be in memory during compilation or dynamic recompilation.
PARSED_SIZE	NUMBER NOT NULL	Size of the parsed form of the object, in bytes Must be in memory when an object is being compiled that references this object.
CODE_SIZE	NUMBER NOT NULL	Code size, in bytes Must be in memory when this object is executing.
ERROR_SIZE	NUMBER NOT NULL	Size of error messages, in bytes Must be in memory during the compilation of the object when there are compilation errors.

SYS.DBA_PLSQL_OBJECT_SETTINGS

DBA_PLSQL_OBJECT_SETTINGS displays information about the compiler settings for all stored objects in the database. It has the same columns as SYS.ALL_PLSQL_OBJECT_SETTINGS.

Related views

- SYS.ALL_PLSQL_OBJECT_SETTINGS
- SYS.USER_PLSQL_OBJECT_SETTINGS

SYS.DBA_PROCEDURES

DBA_PROCEDURES all PL/SQL functions and procedures, along with associated properties. It has the same columns as SYS.ALL_PROCEDURES.

Related views

- SYS.ALL_PROCEDURES
- SYS.USER_PROCEDURES

SYS.DBA_SOURCE

DBA_SOURCE describes the text source of all stored objects. It has the same columns as SYS.ALL_SOURCE.

Related views

- SYS.ALL_SOURCE
- SYS.USER_SOURCE

SYS.DBA_STORED_SETTINGS

DBA_STORED_SETTINGS describes the persistent parameter settings for stored PL/SQL units for which the current user has execute privileges. It also returns parameter information for all objects in the database. It has the same columns as SYS.ALL_STORED_SETTINGS.

Related views

- SYS.ALL_STORED_SETTINGS
- SYS.USER_STORED_SETTINGS

SYS.DBA_SYNONYMS

The DBA_SYNONYMS view describes all synonyms in the database. It has the same columns as SYS.ALL_SYNONYMS.

Related views

- SYS.ALL_SYNONYMS
- SYS.USER_SYNONYMS

SYS.DBA_SYS_PRIVS

The DBA_SYS_PRIVS view lists the system privileges granted to all users and to PUBLIC.

Required privileges

ADMIN

Related views

SYS.USER_SYS_PRIVS lists system privileges granted to the current user.

Columns

Column name	Type	Description.
GRANTEE	VARCHAR2(30) INLINE	Name of the user with the privilege
PRIVILEGE	VARCHAR2(40) INLINE NOT NULL	Privilege name
ADMIN_OPTION	VARCHAR2(3) INLINE NOT NULL	YES if user can grant the privilege; NO if not The value is YES only for the ADMIN privilege.

SYS.DBA_TABLES

The SYS.DBA_TABLES view describes all tables in the database. See "SYS.ALL_TABLES" on page 1-20 for column descriptions.

Related views

- SYS.ALL_TABLES
- SYS.USER_TABLES

SYS.DBA_TAB_PRIVS

The DBA_TAB_PRIVS view lists the object privileges granted to all users and to PUBLIC.

Related views

- SYS.ALL_TAB_PRIVS
- SYS.USER_TAB_PRIVS

Required privileges

ADMIN

Columns

Column name	Type	Description
GRANTEE	VARCHAR2(30) INLINE	Name of the user with the privilege
OWNER	VARCHAR2(30) INLINE	Object owner
TABLE_NAME	VARCHAR2(30) INLINE	Object name
GRANTOR	VARCHAR2(30) INLINE	Name of the user who granted the privilege
PRIVILEGE	VARCHAR2(40) INLINE NOT NULL	Privilege name
GRANTABLE	VARCHAR2(3) INLINE NOT NULL	Value NO
HIERARCHY	VARCHAR2(3) INLINE NOT NULL	Value NO

SYS.DBA_TAB_SIZES

The DBA_TAB_SIZES view contains information about the size of tables that are available in the database. Requires ADMIN privileges. It has the same columns as SYS.ALL_TAB_SIZES.

Related views

- SYS.ALL_TAB_SIZES
- SYS.USER_TAB_SIZES

SYS.DBA_USERS

The DBA_USERS view describes all users of the database.

Related views

- SYS.ALL_USERS
- SYS.USER_USERS

Columns

Column name	Type	Description.
USERNAME	VARCHAR2(30) INLINE	Name of the user
USER_ID	TT_INTEGER NOT NULL	ID number of the user
PASSWORD	VARCHAR2(30) INLINE	Value NULL
ACCOUNT_STATUS	VARCHAR2(32) INLINE NOT NULL	Value OPEN
LOCK_DATE	TT_TIMESTAMP	Value NULL
EXPIRY_DATE	TT_TIMESTAMP	Value NULL
DEFAULT_TABLESPACE	VARCHAR2(30) INLINE NOT NULL	Value USERS
TEMPORARY_TABLESPACE	VARCHAR2(30) INLINE NOT NULL	Value TEMP
CREATED	TT_TIMESTAMP NOT NULL	Date when the user was created
INITIAL_RSRC_CONSUMER_GROUP	VARCHAR2(30) INLINE	Value NULL
EXTERNAL_NAME	VARCHAR2(4000) NOT INLINE	Value NULL
PASSWORD_VERSIONS	VARCHAR2(8) INLINE	Value NULL
EDITIONS_ENABLED	VARCHAR2(1) INLINE	Value NULL

SYS.DBA_VIEWS

The SYS.DBA_VIEWS view describes all views in the database. See "SYS.ALL_VIEWS" on page 1-29 for column descriptions.

Related views

- SYS.ALL_VIEWS
- SYS.USER_VIEWS

SYS.DUAL

The DUAL table can be used in a SELECT statement that references no other tables, but needs to return at least one row. Selecting from the DUAL table is useful for computing a constant expression with the SELECT statement. Because DUAL has only one row, the constant is returned only once.

Columns

Column name	Type	Description
DUMMY	TT_VARCHAR(1) NOT INLINE NOT NULL	'X'

SYS.INDEXES

The INDEXES table stores information about the indexes in the database, including the name, the type (range, bitmap or hash), the index key and whether the index is unique.

Columns

Column name	Type	Description
IXNAME	TT_CHAR(31) NOT NULL	Index name
IXOWNER	TT_CHAR(31) NOT NULL	Name of index owner
IXID	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	TimesTen identifier of index
TBLID	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	TimesTen identifier of indexed table
IXTYPE	TT_INTEGER NOT NULL	Index type 0 - hash index 1 - range index (legacy/internal) 2 - bitmap index 3 - range index (User created)
ISUNIQUE	BINARY(1) NOT NULL	Uniqueness 0 - nonunique index 1 - unique index
ISPRIMARY	BINARY(1) NOT NULL	Primary key 0 - not a primary key for table 1 - primary key for table
USETMPHEAP	TT_SMALLINT NOT NULL	Internal use
KEYCNT	TT_SMALLINT NOT NULL	Number of columns in the index key
KEYCOLS	BINARY(32) NOT NULL	Array of two-byte integer column numbers of index key, mapped to binary
PAGESPARAM	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	Number of pages specified for hash index
NLSSORTID	TT_INTEGER NOT NULL	Internal use only
NLSSORTPARM	VARBINARY(1000) NOT INLINE	Internal use only
NLSSORTSTR	TT_VARCHAR(200) NOT INLINE	Internal use only
NLSSORTBUFSIZE	TT_SMALLINT	Internal use only
NLSSORTMAXSIZE	TT_SMALLINT	Internal use only

Column name	Type	Description
HAKANFACTOR	TT_INTEGER NOT NULL	Internal use only

SYS.MONITOR

The MONITOR table stores information about system performance. It contains a single row with statistics about certain events. For many columns, statistics are gathered starting from the time the database is loaded into memory and statistics are cleared when the database is unloaded from memory. With a ramPolicy of manual or always, the database remains in memory when there are no application connections.

For some columns, statistics are gathered as needed. TimesTen does not gather statistics from the time of the first connection for these columns:

- PERM_ALLOCATED_SIZE
- PERM_IN_USE_SIZE
- TEMP_ALLOCATED_SIZE
- LAST_LOG_FILE
- REPHOLD_LOG_FILE
- REPHOLD_LOG_OFF
- FIRST_LOG_FILE
- CHECKPOINT_BYTES_WRITTEN

For most columns, the MONITOR table is reset whenever there are no connections to the database. TimesTen does not reset the values of the following columns, even when there are no connections to the database:

- PERM_ALLOCATED_SIZE
- PERM_IN_USE_SIZE
- TEMP_ALLOCATED_SIZE
- LAST_LOG_FILE
- REPHOLD_LOG_FILE
- REPHOLD_LOG_OFF
- FIRST_LOG_FILE

TimesTen frequently updates information in the MONITOR table. To prevent these updates from slowing down the system, they are not protected by latches. Hence values in the MONITOR table are not absolutely accurate. They can be used as a reliable indication of activities in the system.

Note: See the SYS.SYSTEMSTATS table if the desired statistic is not in the SYS.MONITOR table. There are statistics that exist in both the SYS.MONITOR table and in the SYS.SYSTEMSTATS table.

Columns

Column name	Type	Description
TIME_OF_1ST_CONNECT	TT_CHAR(32) NOT NULL	Time at which the first connection was made

Column name	Type	Description
DS_CONNECTS	TT_INTEGER NOT NULL	Number of connects to the database
DS_DISCONNECTS	TT_INTEGER NOT NULL	Number of disconnects from the database
DS_CHECKPOINTS	TT_INTEGER NOT NULL	Number of checkpoints taken
DS_CHECKPOINTS_FUZZY	TT_INTEGER NOT NULL	Number of fuzzy checkpoints taken
DS_COMPACTS	TT_INTEGER NOT NULL	Number of database compactions
PERM_ALLOCATED_SIZE	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	Size in kilobytes of the memory allocated to the permanent region
PERM_IN_USE_SIZE	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	Size in kilobytes of the memory in the permanent region that is currently in use
PERM_IN_USE_HIGH_WATER	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	The highest amount (in kilobytes) of memory in use within the permanent region since the first connection to the database The value of this field can be reset to the current value of the PERM_IN_USE_SIZE attribute by using the ttMonitorHighWaterReset built-in procedure.
TEMP_ALLOCATED_SIZE	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	Size in kilobytes of the memory allocated to the temporary region
TEMP_IN_USE_SIZE	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	Size in kilobytes of the memory in the temporary region that is currently in use
TEMP_IN_USE_HIGH_WATER	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	The highest amount (in kilobytes) of memory in use within the temporary region since the first connection to the database The value of this field can be reset to the current value of the TEMP_IN_USE_SIZE attribute by using the ttMonitorHighWaterReset built-in procedure.
TPL_FETCHES	TT_BIGINT NOT NULL	Number of times TimesTen fetches data from the Oracle database into TimesTen using dynamic load

Column name	Type	Description
TPL_EXECS	TT_BIGINT NOT NULL	Number of times TimesTen communicates with the Oracle database to dynamically load data into TimesTen This count also includes attempts to perform a dynamic load when there is no data to fetch from the Oracle database.
CACHE_HITS	TT_BIGINT NOT NULL	Number of times TimesTen successfully finds the required data in TimesTen
PASSTHROUGH_COUNT	TT_BIGINT NOT NULL	Number of successful passthrough executions
XACT_BEGINS	TT_BIGINT NOT NULL	Number of transactions started
XACT_COMMITS	TT_BIGINT NOT NULL	Number of durable and nondurable transactions committed
XACT_D_COMMITS	TT_BIGINT NOT NULL	Number of transactions committed durably
XACT_ROLLBACKS	TT_BIGINT NOT NULL	Number of transactions rolled back
LOG_FORCES	TT_BIGINT NOT NULL	Number of times log files were synchronized to disk
DEADLOCKS	TT_BIGINT NOT NULL	Number of deadlocks
LOCK_TIMEOUTS	TT_BIGINT NOT NULL	Number of lock requests denied due to timeouts
LOCK_GRANTS_IMMED	TT_BIGINT NOT NULL	Number of lock requests granted without a wait
LOCK_GRANTS_WAIT	TT_BIGINT NOT NULL	Number of lock requests granted after a wait
CMD_PREPARES	TT_BIGINT NOT NULL	Number of commands prepared (compiled)
CMD_REPREPARES	TT_BIGINT NOT NULL	Number of commands re-prepared
CMD_TEMP_INDEXES	TT_BIGINT NOT NULL	Number of temporary indexes created during query execution
LAST_LOG_FILE	TT_INTEGER NOT NULL	Most recent log file present Same as `log.file.latest` in `SYS.SYSTEMSTATS`.
REPHOLD_LOG_FILE	TT_INTEGER NOT NULL	Number of last log file held by replication
REPHOLD_LOG_OFF	TT_INTEGER NOT NULL	Offset in last log file held by replication
REP_XACT_COUNT	TT_INTEGER NOT NULL	The number of replicated transactions generated on the local database that are being replicated to at least one peer database

Column name	Type	Description
REP_CONFLICT_COUNT	TT_INTEGER NOT NULL	The number of replicated transactions that ran into a conflict when being applied on the local database
REP_PEER_CONNECTIONS	TT_INTEGER NOT NULL	The sum of all peer connections initiated by the local replication agent There is one connection for every peer relationship where the local database is the master. If a transport level failure results in the establishment of a new connection, this count is incremented.
REP_PEER_RETRIES	TT_INTEGER NOT NULL	The number of retry attempts while trying to establish a new peer connection
FIRST_LOG_FILE	TT_INTEGER NOT NULL	The number of the oldest existing (not yet purged) log file
LOG_BYTES_TO_LOG_BUFFER	TT_BIGINT NOT NULL	The number of bytes written to the log since first connect This value includes the sizes of actual log records plus any log overhead.
LOG_FS_READS	TT_BIGINT NOT NULL	The number of times that a log read could not be satisfied from the in-memory log buffer
LOG_FS_WRITES	TT_BIGINT NOT NULL	The number of times TimesTen has written the contents of the in-memory log buffer to the operating system This column does not count the number of times data was flushed to disk. It counts writes to the operating system's file buffers.
LOG_BUFFER_WAITS	TT_BIGINT NOT NULL	The number of times a thread was delayed while trying to insert a log record into the log buffer because the log buffer was full Generally speaking, if this value is increasing, it indicates that the log buffer is too small.
CHECKPOINT_BYTES_WRITTEN	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	The number of bytes written to disk by the most recent checkpoint operation
CURSOR_OPENS	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	Number of SELECT statements issued

Column name	Type	Description
CURSOR_CLOSES	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	Number of SELECT statements completed
CHECKPOINT_BLOCKS_WRITTEN	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	Total number of blocks written for all completed checkpoints To improve I/O efficiency, multiple blocks may be coalesced into a single write or a single block may be split across multiple writes.
CHECKPOINT_WRITES	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	Total number of write operations issued by all completed and in-progress checkpoints
REQUIRED_RECOVERY	TT_INTEGER NOT NULL	Recovery status 1: When the database was initially loaded into RAM at TIME_OF_1ST_CONNECT, recovery ran. This means that the previous time the database was in memory, the database did not shut down cleanly. When it was loaded into memory this time, the log was replayed and other operations were performed in an attempt to recover data. If DurableCommit had been set to 0, transactions could have been lost. 0: The database was previously shut down cleanly. Thus the database was restarted cleanly.
TYPE_MODE	TT_INTEGER NOT NULL	0: Oracle mode 1: TimesTen mode

See also

SYS.SYSTEMSTATS

SYS.PLAN

The PLAN table contains the execution plan generated by the TimesTen query optimizer. See "Viewing SQL query plans" in the *Oracle TimesTen In-Memory Database Operations Guide*.

Columns

Column name	Type	Description
STEP	TT_INTEGER NOT NULL	Ordinal number of the operation, starting at 1
LEVEL	TT_INTEGER NOT NULL	Level of this operation in the plan tree

Column name	Type	Description
OPERATION	TT_CHAR(31) NOT NULL	Type of operation TblLkSerialScan - full table scan RowLkSerialScan - full table scan TblLkRangeScan - range scan RowLkRangeScan - range scan TblLkHashScan - hash lookup RowLkHashScan - hash lookup TblLkRowidScan - rowid lookup RowLkRowidScan - rowid lookup TblLkUpdate - update of one or more rows RowLkUpdate - update of one or more rows TblLkDelete - delete of one or more rows RowLkDelete - delete of one or more rows TblLkInsert - insert of one or more rows RowLkInsert - insert of one or more rows TmpTtreeScanTmpHashScan - creation of a temporary index NestedLoop [OuterJoin | SemiJoin] - nested loop join (with optional outer join or semijoin) MergeJoin - merge join OrderBy - row sort (requires extra temp space) SortedDistinct - identification of distinct rows from a sorted list (requires minimal extra space) Distinct - identification of distinct rows from an unsorted list (requires extra temporary space) SortedGroupBy - identification of distinct groups from a sorted list (requires minimal extra space) GroupBy - identification of distinct groups from an unsorted list (requires extra temp space) TmpTable - materialization of intermediate results (requires extra temporary space) TblLkUpdView - update of a view based on changes to detail table(s) RowLkUpdView - update of a view based on changes to detail table(s) OracleInsert - flushed changes to the Oracle database ZeroTblScan - evaluation of a predicate on a single set of values (no scan required) ViewUniqueMatchScan - unique identification of those view rows that need to be updated (requires extra temp space
TBLNAME	TT_CHAR(31)	Name of table scanned at this step Column is NULL if no table is scanned.

Column name	Type	Description
IXNAME	TT_CHAR(31)	Name of index used at this step Range index names may have a "(D)" after the name, which indicates a descending scan. Column is NULL if no index is scanned.
PRED	TT_VARCHAR(1024) NOT INLINE	Predicate applied during table or index scan or join Column is NULL if no predicate applies.
OTHERPRED	TT_VARCHAR(1024) NOT INLINE	Predicate applied after table or index scan or join Column is NULL if no predicate applies.

SYS.PUBLIC_DEPENDENCY

The PUBLIC_DEPENDENCY view describes dependencies to and from objects, by object number (OBJECT_ID).

Columns

Column name	Type	Description
OBJECT_ID	TT_BIGINT NOT NULL	Object number
REFERENCED_OBJECT_ID	TT_BIGINT NOT NULL	Referenced object (the parent object)

SYS.SEQUENCES

The SEQUENCES table contains all the information about sequences. Data from the system table is restored to the new database during a CREATE SEQUENCE statement.

Columns

Column name	Type	Description
NAME	TT_CHAR(31) NOT NULL	Sequence name
OWNER	TT_CHAR(31) NOT NULL	Sequence owner
MINVAL	TT_BIGINT NOT NULL	Minimum value
MAXVAL	TT_BIGINT NOT NULL	Maximum value
INCREMENT	TT_BIGINT NOT NULL	Increment value
CACHESIZE	TT_BIGINT NOT NULL	Number of sequence number to be cached For internal TimesTen use.
LASTNUMBER	TT_BIGINT NOT NULL	Last number incremented
SEQID	TT_INTEGER NOT NULL on 32-bit systems TT_BIGINT NOT NULL on 64-bit systems	ID of the sequence row
CYCLE	BINARY(1) NOT NULL	Flag to indicate to wrap around value
IS_REPLICATED	BINARY(1) NOT NULL	Sequence replication status 0 – Sequences are not being replicated. 1 – Sequences are being replicated.
REPACCESS	TT_CHAR(1) NOT NULL	Flag to indicate that sequences cannot be incremented on subscriber-only databases

SYS.SESSION_ROLES

This view returns no rows. The column definitions are the same as the column definitions for the `SYS.SESSION_ROLES` view in the Oracle Database. See *Oracle Database Reference*.

SYS.SYSTEM_PRIVILEGE_MAP

The SYSTEM_PRIVILEGE_MAP table describes privilege type codes. This table can be used to map privilege type numbers to type names.

Columns

Column name	Type	Description
PRIVILEGE	TT_INTEGER NOT NULL	Numeric privilege type code
NAME	VARCHAR2(40) INLINE NOT NULL	Name of the type of privilege
PROPERTY	TT_INTEGER NOT NULL	Property flag of the privilege

SYS.SYSTEMSTATS

The SYSTEMSTATS table stores systemwide monitoring statistics.

Columns

Column name	Type	Description
NAME	TT_CHAR(64) NOT NULL	Name of statistic
VALUE	TT_BIGINT NOT NULL	Value of statistic

Rows

This section contains tables with names and definitions of the statistics reported in the SYSTEMSTATS table. The statistics are subject to change across software releases.

Table 1–1 Asynchronous writethrough (AWT) cache group statistics

Name	Description
cg.awt.tt_txns	Number of TimesTen transactions propagated to the Oracle database
cg.awt.sql_mode.inserts.rows	Number of rows inserted on the Oracle database in SQL mode (CacheAWTMethod=0)
cg.awt.sql_mode.updates.rows	Number of rows updated on the Oracle database in SQL mode (CacheAWTMethod = 0)
cg.awt.sql_mode.deletes.rows	Number of rows deleted on the Oracle database in SQL mode (CacheAWTMethod=0)
cg.awt.sql_mode.inserts.batches	Number of insert batches sent to the Oracle database in SQL mode (CacheAWTMethod=0)
cg.awt.sql_mode.updates.batches	Number of update batches sent to the Oracle database in SQL mode (CacheAWTMethod=0)
cg.awt.sql_mode.deletes.batches	Number of delete batches sent to the Oracle database in SQL mode (CacheAWTMethod=0)
cg.awt.sql_mode.bytes	Number of bytes sent to the Oracle database in SQL mode (CacheAWTMethod=0)
cg.awt.sql_mode.batches	Number of batches sent to the Oracle database in SQL mode (CacheAWTMethod=0)
cg.awt.plsql_mode.inserts.rows	Number of rows inserted on the Oracle database in PL/SQL mode (CacheAWTMethod=1)
cg.awt.plsql_mode.updates.rows	Number of rows updated on the Oracle database in PL/SQL mode (CacheAWTMethod=1)
cg.awt.plsql_mode.deletes.rows	Number of rows deleted on the Oracle database in PL/SQL mode (CacheAWTMethod=1)
cg.awt.plsql_mode.bytes	Number of bytes sent to the Oracle database in PL/SQL mode (CacheAWTMethod=1)
cg.awt.plsql_mode.batches	Number of PL/SQL block batches sent to the Oracle database (CacheAWTMethod=1)
cg.awt.calls_to_oracle	Number of calls made to the Oracle database

Table 1–1 (Cont.) Asynchronous writethrough (AWT) cache group statistics

Name	Description
cg.awt.commits_on_oracle	Number of AWT transactions committed on the Oracle database
cg.awt.rollbacks_on_oracle	Number of rollbacks on the Oracle database because of errors
cg.awt.retries_on_oracle	Number of times AWT transactions are retried on the Oracle database in case of an error

Table 1–2 Autorefresh cache group statistics

Name	Description
cg.autorefresh.inserts.rows	Number of rows inserted in TimesTen during autorefresh from the Oracle database
cg.autorefresh.updates.rows	Number of rows updated in TimesTen during autorefresh from the Oracle database
cg.autorefresh.deletes.rows	Number of rows deleted in TimesTen during autorefresh from the Oracle database
cg.autorefresh.cycles.completed	Number of autorefresh cycles completed successfully on TimesTen
cg.autorefresh.cycles.failed	Number of autorefresh cycles that failed because of errors
cg.autorefresh.full_refreshes	Number of full refreshes triggered during autorefresh operations

Table 1–3 Cache group flush statistics

Name	Description
cg.flush.execs	Number of flush cache group executions
cg.flush.rows	Number of rows flushed to the Oracle database
cg.flush.bytes	Number of bytes flushed to the Oracle database

Table 1–4 Synchronous writethrough (SWT) cache group statistics

Name	Description
cg.swt.inserts.rows	Number of rows in SWT cache groups inserted on the Oracle database
cg.swt.updates.rows	Number of rows in SWT cache groups updated on the Oracle database
cg.swt.deletes.rows	Number of rows in SWT cache groups deleted on the Oracle database
cg.swt.bytes	Number of bytes sent to the Oracle database during SWT cache group operations

Table 1–5 Local cache group statistics

Name	Description
cg.dynamic.local.hits.count	Local dynamic cache group cache hits: Number of dynamic loads that find the requested data within the TimesTen database
cg.dynamic.local.misses.count	Local dynamic cache group cache misses: Number of dynamic loads that do not find the requested data within the database and need to load the data from the Oracle database
cg.dynamic.local.misses.oracle.loads	Number of data load attempts from the Oracle database when servicing dynamic load misses for dynamic local cache groups
cg.dynamic.local.misses.oracle.loads.successes	Number of data loads from the Oracle database when servicing dynamic load misses for dynamic local cache groups

Table 1–6 Grid operational statistics

Name	Description
grid.member.attaches	Number of attach operations
grid.member.detaches	Number of detach operations

Table 1–7 Dynamic global cache group statistics

Name	Description
cg.dynamic.global.hits.count	Global dynamic cache group cache hits: Dynamic loads that find the data in the local grid member without requiring the data to be loaded from the Oracle database or another grid member
cg.dynamic.global.misses.count	Global dynamic cache group cache misses: Dynamic loads that do not find data initially in the local grid member (either need to go to the Oracle database or to another grid member)
cg.dynamic.global.misses.remote.loads.successes	Dynamic loads that do not find data in the local grid member and successfully load the required data from a different grid member
cg.dynamic.global.misses.oracle	Number of times a dynamic load miss had to load the requested data from the Oracle database
cg.dynamic.global.misses.oracle.loads.successes	Number of data loads from the Oracle database when servicing dynamic load misses for dynamic global cache groups

Table 1–7 (Cont.) Dynamic global cache group statistics

Name	Description
cg.dynamic.global.requests.received	Number of requests for data received by this grid member from another grid member (as a result of a dynamic load on the remote grid member)
cg.dynamic.global.requests.received.data_not_present	Number of requests for data received by this grid member when the data requested was found not to be present on this grid member
cg.dynamic.global.requests.received.data_locked	Number of requests for data received by this grid member when the data requested was locked by a transaction on this grid member
cg.dynamic.global.requests.received.data_dirty	Number of requests for data received by this grid member when the data requested is dirty and must first be propagated to the Oracle database

Table 1–8 Persistence statistics (logging and checkpointing)

Name	Description
log.buffer.insertions	Number of log records inserted into the log buffer
log.buffer.bytes_inserted	Number of bytes inserted into the log buffer
log.buffer.waits	Total number of waits experienced by all insertion processes
log.file.reads	Number of file system reads
log.file.writes	Number of file system writes
log.forces	Number of times the log is synched to disk
log.files.generated	Number of log files generated so far
log.file.earliest	Earliest log file that currently exists in the database
log.file.latest	Most recent log file present Same as LAST_LOG_FILE in SYS.MONITOR.
log.commit.bytes.read	Number of bytes read from the log for commit processing
log.commit.file.reads	Number of file system reads from the log for commit processing
log.recovery.bytes.read	Number of log bytes read during database recovery
ckpt.bytes_written	Number of bytes written for checkpointing
ckpt.writes	Number of checkpoint writes
ckpt.completed	Number of checkpoints completed
ckpt.completed.fuzzy	Number of fuzzy checkpoints completed
ckpt.bytes_written.during_recovery	Number of bytes written for checkpointing during database recovery

Table 1–9 User and system activity statistics

Name	Description
stmt.prepares.count	Number of statement prepares
stmt.prepares.command_cache_miss	Number of command cache misses during statement prepare
stmt.reprepares.count	Number of statement reprepares, including forced and automatic
stmt.reprepares.automatic	Number of automatic statement reprepares
stmt.executes.count	Number of SQL statements executed
stmt.executes.updates	Number of UPDATE statements executed
stmt.executes.deletes	Number of DELETE statements executed
stmt.executes.merges	Number of MERGE statements executed
stmt.executes.inserts	Number of INSERT statements executed
stmt.executes.selects	Number of SELECT statements executed
stmt.executes.alters	Number of ALTER statements executed
stmt.executes.creates	Number of CREATE statements executed
stmt.executes.drops	Number of DROP statements executed
txn.commits.count	Number of transactions committed
txn.commits.durable	Number of durable transaction commits
txn.commits.nondurable	Number of nondurable transaction commits
txn.commits.replicated.durable	Number of durable replicated transaction commits
txn.commits.replicated.nondurable	Number of nondurable replicated transaction commits
txn.commits.internal.replication	Number of replication-initiated transaction commits
txn.commits.internal.xla	Number of XLA-initiated transaction commits
txn.rollbacks	Number of transaction rollbacks
connections.established.count	Number of database connections established
connections.established.first.count	Number of first database connections established
connections.established.direct	Number of direct-linked database connections established
connections.established.client_server	Number of client/server connections established
connections.established.threshold_exceeded	Number of database connection threshold exceeded events
connections.disconnected	Number of database disconnects

Table 1–10 Database activity statistics

Name	Description
db.table.rows_read	Number of table rows read

Table 1–10 (Cont.) Database activity statistics

Name	Description
db.table.rows_inserted	Number of table rows inserted
db.table.rows_updated	Number of table rows updated
db.table.rows_deleted	Number of table rows deleted
db.table.full_scans	Number of full table scans
db.index.rebuilds	Number of indexes rebuilt
db.index.hash.inserts	Number of rows inserted into hash indexes
db.index.hash.inserts.recovery_rebuild	Number of rows inserted into hash indexes during index rebuild phase of database recovery
db.index.hash.deletes	Number of rows deleted from hash indexes
db.index.hash.scans.count	Number of hash indexes scanned
db.index.hash.scans.repl	Number of hash indexes scanned during replication operations (such as insert, update and delete operations on tables)
db.index.hash.rows_fetched.count	Number of rows fetched from hash indexes
db.index.hash.rows_fetched.repl	Number of rows fetched from hash indexes during replication operations
db.index.range.inserts.count	Number of rows inserted into range indexes
db.index.range.inserts.recovery_rebuild	Number of rows inserted into range indexes during index rebuild phase of database recovery
db.index.range.deletes	Number of rows deleted from range indexes
db.index.range.updates	Number of rows updated on range indexes
db.index.range.scans.count	Number of range indexes scanned
db.index.range.scans.repl	Number of range indexes scanned during replication operations (such as insert, update and delete operations on tables)
db.index.range.rows_fetched.count	Number of rows fetched from range indexes
db.index.range.rows_fetched.repl	Number of rows fetched from range indexes during replication operations
db.index.temporary.created	Number of temporary indexes created
db.index.temporary.scans.count	Number of temporary indexes scanned
db.index.temporary.scans.repl	Number of temporary indexes scanned during replication operations
db.index.temporary.rows_fetched.count	Number of rows fetched from temporary indexes
db.index.temporary.rows_fetched.repl	Number of rows fetched from temporary indexes during replication operations
db.sorts	Number of sorts done
db.joins.nested_loop	Number of nested loop joins done
db.joins.merge	Number of merge joins done

Table 1–11 Locking statistics

Name	Description
lock.locks_granted.immediate	Number of locks granted immediately
lock.locks_granted.wait	Number of locks granted that required waiting
lock.timeouts	Number of lock timeouts
lock.deadlocks	Number of deadlocks
lock.locks_acquired.table_scans	Number of locks acquired for table scans
lock.locks_acquired.dml	Number of locks acquired for DML activity

Table 1–12 Aging statistics

Name	Description
aging.timebased.cycles	Number of time-based aging cycles completed since the database was loaded into memory
aging.timebased.commits	Number of time-based aging commits done since the database was loaded into memory
aging.timebased.rows.deleted	Number of rows deleted during time-based aging since the database was loaded into memory
aging.timebased.rows.skipped	Number of rows that were not deleted using time-based aging because of lock contention since the database was loaded into memory
aging.lru.cycles	Number of LRU aging cycles completed since the database was loaded into memory
aging.lru.commits	Number of LRU aging commits done since the database was loaded into memory
aging.lru.rows.deleted	Number of rows deleted during LRU aging since the database was loaded into memory
aging.lru.rows.skipped	Number of rows that were not deleted using LRU aging because of lock contention since the database was loaded into memory
aging.lru.high_threshold_reached	Number of times LRU aging high threshold is reached since the database was loaded into memory
aging.lru.low_threshold_reached	Number of times LRU aging low threshold is reached since the database was loaded into memory

Table 1–13 Client/Server statistics

Name	Description
cs.server.executes.updates	Number of UPDATE statements executed by server
cs.server.executes.deletes	Number of DELETE statements executed by server
cs.server.executes.merges	Number of MERGE statements executed by server

Table 1–13 (Cont.) Client/Server statistics

Name	Description
cs.server.executes.inserts	Number of INSERT statements executed by server
cs.server.executes.selects	Number of SELECT statements executed by server
cs.server.executes.alters	Number of ALTER statements executed by server
cs.server.executes.creates	Number of CREATE statements executed by server
cs.server.executes.drops	Number of DROP statements executed by server
cs.server.commits.count	Number of transactions committed by server
cs.server.rollbacks	Number of transaction rollbacks by server
cs.server.rows_inserted	Number of table rows inserted by server
cs.server.rows_updated	Number of table rows updated by server
cs.server.rows_deleted	Number of table rows deleted by server
cs.server.roundtrips	Number of client/server round trips
cs.server.bytes.transmitted	Number of client/server bytes transmitted by server
cs.server.bytes.received	Number of client/server bytes received by server
cs.server.disconnected	Number of client/server disconnects

Table 1–14 Reclaim cache statistics

Name	Description
txn.commits.buf.overflowed	Number of commits that overflowed the buffer

See also

SYS.MONITOR

SYS.TABLE_PRIVILEGE_MAP

The TABLE_PRIVILEGE_MAP system table describes privilege type codes. This table can be used to map privilege type numbers to type names.

Columns

Column name	Type	Description
PRIVILEGE	TT_INTEGER NOT NULL	Numeric privilege type code
NAME	VARCHAR2(40) INLINE NOT NULL	Name of the type of privilege

SYS.TABLES

The TABLES table stores information about the tables in the database, including the name, the owner, the number of columns, the size of a row and the primary key (if any). The TABLES table also stores information on system tables.

Specific column information is stored in the COLUMNS table.

Columns

Column name	Type	Description
TBLNAME	TT_CHAR(31) NOT NULL	Table name
TBLOWNER	TT_CHAR(31) NOT NULL	Name of user who owns the table
OWNER	TT_INTEGER NOT NULL	Owner identification
NUMVARY	TT_SMALLINT NOT NULL	Number of varying-length columns in table
NUMNULL	TT_SMALLINT NOT NULL	Number of nullable columns in table
NUMCOLS	TT_SMALLINT NOT NULL	Number of columns in table
LENGTH	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	Length of inline portion of each row
NUMLOB	TT_SMALLINT NOT NULL	Number of LOB columns in the table
NUMCOMPRESS	TT_SMALLINT NOT NULL	Number of columns compressed in the table
TBLID	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	TimesTen identifier for table Matches SYS.COLUMNS.ID.
NUMTUPS	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	Table cardinality This value is precise only when no INSERT or DELETE transactions are active. The value includes uncommitted inserts, but not uncommitted deletes. Consequently, the value of this field may be larger than the actual table cardinality.
MAXTUPS	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	Maximum table cardinality
PRIMCNT	TT_SMALLINT NOT NULL	Number of columns in primary key (0 if none)
PRIMCOLS	BINARY(32) NOT NULL	Array of two-byte integer column numbers of primary key, mapped to binary

Column name	Type	Description
CACHEFLAG	BINARY(1) NOT NULL	Internal use
XLAFLAG	BINARY(1) NOT NULL	XLA status If set, updates to this table should be transmitted to the transaction log API.
PXLAFLAG	BINARY(1) NOT NULL	Persistent XLA status If set, indicates that persistent XLA has been enabled for this particular user table.
CACHEGROUP	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	ID of cache group that this table belongs to This flag is nonzero if the table belongs to a cache group.
OCACHEGROUP	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	Internal use
MVID	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	If TBLNAME is a view: the ID of the associated row in the SYS.VIEWS system table Otherwise, value 0
MVIDS	TT_VARCHAR(1024) NOT INLINE	If TBLNAME is a detail table: the ID of an array that contains the rowids in SYS.VIEWS that correspond to a materialized view that references the detail table
CGFKIDS	TT_VARCHAR(8192) NOT INLINE	Future use
PERMLTBLID	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	The ID of the associated permanent table
CVVERSIONNUM	TT_INTEGER NOT NULL	Internal use
REPNUMKEYCOLS	TT_SMALLINT NOT NULL	Number of columns in the replication key described by REPKEYCOLS
REPTSCOLNUM	TT_SMALLINT NOT NULL	Column number of the column used for replication's timestamp-based conflict checking
REPRETURNSERVICE	TT_CHAR(1) NOT NULL	Return service for this subscriber with respect to this replication element 'C' - RETURN COMMIT 'R' - RETURN RECEIPT '2' - RETURN TWOSAFE '\0' - NO RETURN services

Column name	Type	Description
REPRETURNBYREQUEST	BINARY(1) NOT NULL	Status of return services 0 - Return services are provided unconditionally. 1 - Return services are provided only by request. This field is ignored if REPRETURNSERVICE = '\0'.
REPUSERID	TT_BIGINT NOT NULL	User-defined identifier for table (set with ttSetUserTableID built-in function)
REPKEYCOLS	BINARY(32) NOT NULL	Column numbers used by replication for unique identification of a row Array of two-byte integers, mapped to binary.
REPACCESS	TT_CHAR(1) NOT NULL	The access restrictions imposed by replication '-' - no access permitted 's'- may be read by read-only (SELECT) transactions 'r' - may be read by updating transactions 'w' - may be updated w => r and r => s.
REPTSUPDATERULE	TT_CHAR(1) NOT NULL	The rule for maintaining the TS_COLUMN for a timestamp-based conflict detector '\0' - rule not defined 'U' - BY USER 'S' - BY SYSTEM (default)
CACHEDTBLPOS	TT_INTEGER NOT NULL	Future use
VALTBLIDS	VARBINARY(4000) NOT INLINE for 32-bit systems VARBINARY(8000) NOT INLINE for 64-bit systems	If the table contains compressed columns: the ID of an array, containing the ID's of the corresponding dictionary tables

SYS.TBL_STATS

The TBL_STATS table stores the statistics for tables in the database, namely the number of rows in the table. No values are present if the statistics have not been computed.

Column-specific statistics are stored in the SYS.COL_STATS table.

Columns

Column name	Type	Description
TBLID	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	TimesTen identifier of table
NUMTUPS	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	Number of rows in the table
LASTSTATSUPDATE	TT_CHAR(25)	Time of most recent update of this table Time is in the following format: Day Mon DD HH:MI:SS YYYY For example: Sun Jan 03 18:24:12 2010 The string is null-terminated. This column is NULL if no statistics update has been performed on the table.

SYS.TCOL_STATS

The TCOL_STATS table stores the statistics for table columns in temporary table databases associated with active sessions. Statistics include the number of unique values, number of nulls, number of rows and other information regarding the distribution of column values. No values are present if statistics have not been computed.

Columns

Column name	Type	Description
TBLID	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	TimesTen table identifier
COLNUM	TT_SMALLINT NOT NULL	Ordinal number of column in table (starting at 1)
INFO	VARBINARY(4194304) NOT NULL NOT INLINE	Binary representative of the column value distribution information See "ttOptUpdateStats" in *Oracle TimesTen In-Memory Database Reference* for an explanation of the distribution information stored in this column. A text representation of this information can be retrieved using the ttOptGetColStats built-in procedure.

SYS.TINDEXES

The TINDEXES table stores information about the indexes in the temporary table databases associated with active sessions, including the name, the type (range or hash), the index key and whether the index is unique.

Columns

Column name	Type	Description
IXNAME	TT_CHAR(31) NOT NULL	Index name
IXOWNER	TT_CHAR(31) NOT NULL	Name of index owner
IXID	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	TimesTen identifier of index
TBLID	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	TimesTen identifier of index's table
IXTYPE	TT_INTEGER NOT NULL	Index type 0 - hash index 1 - range index
ISUNIQUE	BINARY(1) NOT NULL	Uniqueness 0 - nonunique index 1 - unique index
ISPRIMARY	BINARY(1) NOT NULL	Primary key 0 - not a primary key for table 1 - primary key for table
USETMPHEAP	TT_SMALLINT NOT NULL	Internal use only
KEYCNT	TT_SMALLINT NOT NULL	Number of columns in the index key
KEYCOLS	BINARY(32) NOT NULL	Array of two-byte integer column numbers of index key, mapped to binary
PAGESPARAM	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	Number of pages specified for hash index
NLSSORTID	TT_INTEGER NOT NULL	Internal use only
NLSSORTPARM	VARBINARY(1000) NOT INLINE	Internal use only
NLSSORTSTR	TT_VARCHAR(200) NOT INLINE	Internal use only
NLSSORTBUFSIZE	TT_SMALLINT	Internal use only
NLSSORTMAXSIZE	TT_SMALLINT	Internal use only
HAKANFACTOR	TT_INTEGER NOT NULL	Internal use only

SYS.TRANSACTION_LOG_API

The TRANSACTION_LOG_API table keeps track of the persistent Transaction Log API bookmarks. Each row in the system table corresponds to a persistent bookmark. Each persistent bookmark has a text identifier associated with it that is used to keep track of the bookmark.

Columns

Column name	Type	Description
ID	TT_CHAR(31) NOT NULL	A text tag identifier used to keep track of the bookmark
READLSNHIGH	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	The high value of the read log record to which this bookmark points
READLSNLOW	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	The low value of the read log record to which this bookmark points
PURGELSNHIGH	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	The high value of the lowest LSN required by this bookmark
PURGELSNLOW	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	The low value of the lowest LSN required by this bookmark
PID	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	The process ID of the process to last open the XLA bookmark
INUSE	BINARY(1) NOT NULL	Bookmark being used by any persistent Transaction Log API connection
REPLICATED	BINARY(1)	For a replicated bookmark Internal use only
COUNTER	TT_BIGINT	For a replicated bookmark Internal use only
COUNTER_A	TT_BIGINT	For a replicated bookmark Internal use only
COUNTER_B	TT_BIGINT	For a replicated bookmark Internal use only
CTN_HIGH_A	TT_INTEGER for 32-bit systems TT_BIGINT for 64-bit systems	For a replicated bookmark Internal use only

Column name	Type	Description
CTN_LOW_A	TT_INTEGER for 32-bit systems	For a replicated bookmark
	TT_BIGINT for 64-bit systems	Internal use only
CTN_HIGH_B	TT_INTEGER for 32-bit systems	For a replicated bookmark
	TT_BIGINT for 64-bit systems	Internal use only
CTN_LOW_B	TT_INTEGER for 32-bit systems	For a replicated bookmark
	TT_BIGINT for 64-bit systems	Internal use only

SYS.TTABLES

The TTABLES table stores information about temporary table databases associated with active sessions, including the name, the owner, the number of columns, the size of a row and the primary key (if any).

Specific column information is stored in the COLUMNS table.

Columns

Column name	Type	Descriptions
TBLNAME	TT_CHAR(31) NOT NULL	Table name
TBLOWNER	TT_CHAR(31) NOT NULL	Name of user who owns the table
OWNER	TT_INTEGER NOT NULL	Owner of table 0 - TimesTen system table 1 - user table
NUMVARY	TT_SMALLINT NOT NULL	Number of varying-length columns in table
NUMNULL	TT_SMALLINT NOT NULL	Number of nullable columns in table
NUMCOLS	TT_SMALLINT NOT NULL	Number of columns in table
LENGTH	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	Length of inline portion of each row
NUMLOB	TT_SMALLINT NOT NULL	Number of LOB columns in table
NUMCOMPRESS	TT_SMALLINT NOT NULL	Number of columns compressed in table
TBLID	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	TimesTen identifier for table
NUMTUPS	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	Table cardinality This value is precise only when no INSERT or DELETE transactions are active. The value includes uncommitted inserts, but not uncommitted deletes. Consequently, the value of this field may be larger than the actual table cardinality.
MAXTUPS	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	Maximum table cardinality
PRIMCNT	TT_SMALLINT NOT NULL	Number of columns in primary key (0 if none)

Column name	Type	Descriptions
PRIMCOLS	BINARY (32) NOT NULL	Array of two-byte integer column numbers of primary key, mapped to binary
CACHEFLAG	BINARY(1) NOT NULL	Cache group flag 0 - Table is not in a cache group. 1 - Table is in a cache group.
XLAFLAG	BINARY(1) NOT NULL	XLA flag If set, updates to this table should be transmitted to the transaction log API.
PXLAFLAG	BINARY(1) NOT NULL	XLA persistence flag If set, indicates that persistent XLA has been enabled for this particular user table.
CACHEGROUP	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	ID of cache group that this table belongs to
OCACHEGROUP	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	Reserved for internal use
MVID	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	If the table is a view: ID of the associated row in the SYS.VIEWS system table
MVIDS	TT_VARCHAR(1024) NOT INLINE	If the table is a view detail table: ID of the array or the IDs of the rows in the SYS.VIEWS system table of the materialized views that reference this detail table
CGFKIDS	TT_VARCHAR (8192) NOT INLINE	Reserved for future use
PERMLTBLID	TT_INTEGER NOT NULL	The associated permanent table's ID
CVVERSIONNUM	TT_INTEGER NOT NULL	Reserved for internal use
REPNUMKEYCOLS	TT_SMALLINT NOT NULL	Number of columns in the replication key described by REPKEYCOLS
REPTSCOLNUM	TT_SMALLINT NOT NULL	Column number of the column used for replication's timestamp-based conflict checking

Column name	Type	Descriptions
REPRETURNSERVICE	TT_CHAR(1) NOT NULL	Return service for this subscriber with respect to this replication element 'C' - RETURN COMMIT 'R' - RETURN RECEIPT '2' - RETURN TWOSAFE '\0' - NO RETURN services
REPRETURNBYREQUEST	BINARY(1) NOT NULL	Status of return service 0 - Return services are provided unconditionally. 1 - Return services are provided only by request. This field is ignored if REPRETURNSERVICE = '\0'.
REPUSERID	TT_BIGINT NOT NULL	User-defined identifier for table (set with the ttSetUserTableID built-in procedure)
REPKEYCOLS	BINARY(32) NOT NULL	Column numbers used by replication for unique identification of a row This is an array of two-byte integers, mapped to binary.
REPACCESS	TT_CHAR(1) NOT NULL	The access restrictions imposed by replication '-' - no access permitted 's'- may be read by read-only (SELECT) transactions 'r' - may be read by updating transactions 'w' - may be updated w => r and r => s
REPTSUPDATERULE	TT_CHAR(1) NOT NULL	The rule for maintaining the TS_COLUMN for a timestamp-based conflict detector '\0' - rule not defined 'U' - BY USER 'S' - BY SYSTEM (default)
CACHEDTBLPOS	TT_INTEGER NOT NULL	Reserved for future use
VALTBLIDS	VARBINARY(4000) NOT INLINE for 32-bit systems VARBINARY(8000) NOT INLINE for 64-bit systems	If the table contains compressed columns: ID of an array, containing the IDs of the corresponding dictionary tables

SYS.TTBL_STATS

The TTBL_STATS table stores the statistics for temporary table databases associated with active sessions, namely the number of rows in the table. No values are present if the statistics have not been computed.

Column-specific statistics are stored in the SYS.COL_STATS table.

Columns

Column name	Type	Description
TBLID	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	TimesTen identifier of table
NUMTUPS	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	Number of rows in the table
LASTSTATSUPDATE	TT_CHAR(25)	Time of most recent update of this table Time is in the following format: Day Mon DD HH:MI:SS YYYY For example: Sun Jan 03 18:24:12 2010 The string is null-terminated. This column is NULL if no statistics update has been performed on the table.

SYS.USER_ARGUMENTS

USER_ARGUMENTS describes the arguments of the procedures and functions that are owned by the current user. This view does not display the OWNER column. See "SYS.ALL_ARGUMENTS" on page 1-4 for column descriptions.

Related views

- SYS.ALL_ARGUMENTS
- SYS.DBA_ARGUMENTS

SYS.USER_COL_PRIVS

This view returns no rows. The column definitions are the same as the column definitions for the SYS.USER_COL_PRIVS view in the Oracle Database. See *Oracle Database Reference*.

Related views

- SYS.ALL_COL_PRIVS returns no rows.
- SYS.DBA_COL_PRIVS returns no rows.

SYS.USER_DEPENDENCIES

USER_DEPENDENCIES describes dependencies between objects that are owned by the current user.

Related views

- SYS.ALL_DEPENDENCIES
- SYS.DBA_DEPENDENCIES

Columns

Column name	Type	Description
NAME	VARCHAR2(30) INLINE	Object name
TYPE	VARCHAR2(17) INLINE NOT NULL	Object type
REFERENCED_OWNER	VARCHAR2(30) INLINE	Owner of the referenced object
REFERENCED_NAME	VARCHAR2(30) INLINE	Name of the referenced object
REFERENCED_TYPE	VARCHAR2(17) INLINE NOT NULL	Type of the referenced object
REFERENCED_LINK_NAME	VARCHAR2(128) INLINE	Unused (Column unused by TimesTen. Ignore value.)
SCHEMAID	NUMBER	ID of the current schema
DEPENDENCY_TYPE	VARCHAR2(4) INLINE NOT NULL	REF for REF dependency HARD otherwise

SYS.USER_ERRORS

USER_ERRORS describes the current errors on the stored objects that are owned by the current user. This view does not display the OWNER column. See "SYS.ALL_ERRORS" on page 1-10 for column descriptions.

Related views

- SYS.ALL_ERRORS
- SYS.DBA_ERRORS

SYS.USER_IDENTIFIERS

USER_IDENTIFIERS describes the identifiers for all stored objects that are owned by the current user. This view does not display the OWNER column. See "SYS.ALL_IDENTIFIERS" on page 1-11 for column descriptions.

Related views

- SYS.ALL_DEPENDENCIES
- SYS.DBA_DEPENDENCIES

SYS.USER_OBJECTS

USER_OBJECTS describes all objects owned by the current user. This view does not display the OWNER column. See "SYS.ALL_OBJECTS" on page 1-12 for column descriptions.

Related views

- SYS.ALL_OBJECTS
- SYS.DBA_OBJECTS

SYS.USER_OBJECT_SIZE

USER_OBJECT_SIZE describes the size, in bytes, of PL/SQL objects owned by the current user. This view does not display the OWNER column. See "SYS.DBA_OBJECT_SIZE" on page 1-43 for column descriptions.

Related views

SYS.DBA_OBJECT_SIZE

SYS.USER_PLSQL_OBJECT_SETTINGS

USER_PLSQL_OBJECT_SETTINGS describes compiler settings for all stored objects that are owned by the current user. This view does not display the OWNER column. See "SYS.DBA_PLSQL_OBJECT_SETTINGS" on page 1-44 for column descriptions.

Related views

- SYS.ALL_PLSQL_OBJECT_SETTINGS
- SYS.USER_PLSQL_OBJECT_SETTINGS

SYS.USER_PROCEDURES

USER_PROCEDURES describes all functions and procedures, along with associated properties that are owned by the current user. This view does not display the OWNER column. See "SYS.ALL_PROCEDURES" on page 1-15 for column descriptions.

Related views

- SYS.ALL_PROCEDURES
- SYS.DBA_PROCEDURES

SYS.USER_SOURCE

USER_SOURCE describes the text source of the stored objects that are owned by the current user. This view does not display the OWNER column. See "SYS.ALL_SOURCE" on page 1-17 for column descriptions.

Related views

- SYS.ALL_SOURCE
- SYS.DBA_SOURCE

SYS.USER_STORED_SETTINGS

USER_STORED_SETTINGS describes the persistent parameter settings for stored PL/SQL units, but shows only information about PL/SQL units owned by the current user. See "SYS.ALL_STORED_SETTINGS" on page 1-18 for column descriptions.

Related views

- SYS.ALL_STORED_SETTINGS
- SYS.DBA_STORED_SETTINGS

SYS.USER_SYNONYMS

The USER_SYNONYMS view describes the synonyms owned by the current user. This view does not display the OWNER column. See "SYS.ALL_SYNONYMS" on page 1-19 for column descriptions.

Related views

- SYS.ALL_SYNONYMS
- SYS.DBA_SYNONYMS

SYS.USER_SYS_PRIVS

The USER_SYS_PRIVS view lists the system privileges of the current user.

Related views

SYS.DBA_SYS_PRIVS lists the system privileges granted to all users and to PUBLIC.

Columns

Column name	Type	Description
USERNAME	VARCHAR2(30) INLINE	User name
PRIVILEGE	VARCHAR2(40) INLINE NOT NULL	Privilege name
ADMIN_OPTION	VARCHAR2(3) INLINE NOT NULL	YES if user can grant the privilege; NO if not The value is YES only for the ADMIN privilege.

SYS.USER_TABLES

The SYS.USER_TABLES view describes all tables owned by the current user. This view does not display the OWNER column. See "SYS.ALL_TABLES" on page 1-20 for column descriptions.

Related views

- SYS.ALL_TABLES
- SYS.DBA_TABLES

SYS.USER_TAB_PRIVS

The USER_TAB_PRIVS view lists the object privileges granted to the current user, the object privileges granted by the current user, and the list of object privileges granted for objects owned by the current user.

Related views

- SYS.ALL_TAB_PRIVS
- SYS.DBA_TAB_PRIVS

Columns

Column name	Type	Description
GRANTEE	VARCHAR2(30) INLINE	Name of the user with the privilege
OWNER	VARCHAR2(30) INLINE	Object owner
TABLE_NAME	VARCHAR2(30) INLINE	Object name
GRANTOR	VARCHAR2(30) INLINE	Name of the user who granted the privilege
PRIVILEGE	VARCHAR2(40) INLINE NOT NULL	Privilege name
GRANTABLE	VARCHAR2(3) INLINE NOT NULL	Value NO
HIERARCHY	VARCHAR2(3) INLINE NOT NULL	Value NO

SYS.USER_TAB_SIZES

The USER_TAB_SIZES view contains the information about the size of tables that are owned by the current user. This view has the same columns as SYS.ALL_TAB_SIZES but does not include the OWNER column.

Related views

- SYS.ALL_TAB_SIZES
- SYS.DBA_TAB_SIZES

SYS.USER_USERS

The USER_USERS view describes the current user.

Related views

- SYS.ALL_USERS
- SYS.DBA_USERS

Columns

Column name	Type	Description
USERNAME	VARCHAR2(30) INLINE	Name of the user
USER_ID	TT_INTEGER NOT NULL	ID number of the user
ACCOUNT_STATUS	VARCHAR2(32) INLINE NOT NULL	Value OPEN
LOCK_DATE	TT_TIMESTAMP	Value NULL
EXPIRY_DATE	TT_TIMESTAMP	Value NULL
DEFAULT_TABLESPACE	VARCHAR2(30) INLINE NOT NULL	Value USERS
TEMPORARY_TABLESPACE	VARCHAR2(30) INLINE NOT NULL	Value TEMP
CREATED	TT_TIMESTAMP NOT NULL	Date when the user was created
INITIAL_RSRC_CONSUMER_GROUP	VARCHAR2(30) INLINE	Value NULL
EXTERNAL_NAME	VARCHAR2(4000) NOT INLINE	Value NULL

SYS.USER_VIEWS

The SYS.USER_VIEWS view describes all tables owned by the current user. This view does not display the OWNER column. See "SYS.ALL_VIEWS" on page 1-29 for column descriptions.

Related views

- SYS.ALL_VIEWS
- SYS.DBA_VIEWS

SYS.VIEWS

The VIEWS table stores the statistics for views in the database.

Columns

Column name	Type	Description
NAME	TT_CHAR(31) NOT NULL	View name
OWNER	TT_CHAR(31) NOT NULL	View owner
ID	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	ID of the view row
TBLID	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	ID of the view
SQL	TT_VARCHAR(409600) NOT INLINE NOT NULL	View SELECT statement
REFRESH_INTERVAL	TT_BIGINT	Refresh interval in seconds
REFRESH_START	TT_TIMESTAMP	The start time of the most recent refresh
REFRESH_END	TT_TIMESTAMP	The ending time of the most recent refresh
REFRESH_ROWCNT	TT_INTEGER	Number of rows refreshed in the most recent refresh

SYS.XLASUBSCRIPTIONS

The XLASUBSCRIPTIONS table stores information needed for table subscriptions at the bookmark level.

Columns

Column name	Type	Description
BOOKMARK	TT_CHAR(31) NOT NULL	Bookmark name
TBLNAME	TT_CHAR(31) NOT NULL	The name of the subscribed table
TBLOWNER	TT_CHAR(31) NOT NULL	Owner of the subscribed table

2

Replication Tables

TimesTen stores metadata about replication in replication tables in your database.

Your applications can read the replication tables, but it cannot update them. If your application defines a table with the same name as a replication table, then your application can read a replication table by prefixing the replication table name with `TTREP`. For example, `SELECT * FROM TTREP.REPTABLES` selects rows from the `REPTABLES` replication table.

Information specific to replication tables:

- Locks acquired by users on replication tables may prevent others from defining data or executing the `SQLPrepare` ODBC function or the `Connection.prepareStatement` JDBC method.
- The last character in name columns is always a space. Therefore, while the column length for name columns is 31, the maximum object name length is 30.
- On 64-bit systems, TimesTen replication tables declare certain fields as data type `TT_BIGINT`. When retrieving these columns with an ODBC program, the application must bind them using `SQL_C_BINARY`. For information about `SQL_C_BINARY`, see ODBC documentation.

> **Note:** Some tables contain columns named `SYS`*`number`*. Because these columns contain values used internally by TimesTen, they are not documented in this chapter.

Replication tables reserved for internal or future use

The `TTREP.CLIENTFAILOVER` table is reserved for internal or future use.

Required privileges to access replication tables

By default `PUBLIC` has `SELECT` privileges on various system and replication tables and `EXECUTE` privileges on various PL/SQL objects. You can see the list of objects by using this query:

```
SELECT * FROM sys.dba_tab_privs WHERE grantee='PUBLIC';
```

The `ADMIN` or `SELECT ANY TABLE` privilege is required to access other system and replication tables and views.

TTREP.REPELEMENTS

The REPELEMENTS table describes elements in a replication scheme.

Columns

Column name	Type	Description
REPLICATION_NAME	TT_CHAR(31) NOT NULL	Name for a replication scheme
REPLICATION_OWNER	TT_CHAR(31) NOT NULL	The replication scheme's owner
ELEMENT_NAME	TT_CHAR(31) NOT NULL	The replication name for this element This is logically different from the DS_OBJ_NAME of the underlying data base object. For example, the ELEMENT_NAME for a replicated table may differ from the table name. This name must be unique in a replication scheme.
ELEMENT_TYPE	TT_CHAR(1) NOT NULL	The type of this replication element 'T' – table 'D' – database 'S' – sequence
OWNED_BY_SYSTEM	BINARY(1) NOT NULL	0x01 - if element is maintained by the system and cannot be directly referenced by SQL statements 0x00 - if element is defined and maintained by a user
MASTER_ID	TT_BIGINT NOT NULL	The TT_STORE_ID for the master or propagator of this element
OLD_MASTER_ID	TT_BIGINT NOT NULL	The TT_STORE_ID for the immediately preceding MASTER for this element -1 if none
IS_PROPAGATOR	BINARY(1) NOT NULL	Propagator flag 0 - The MASTER_ID identifies a true MASTER database. 1 - The MASTER_ID identifies a PROPAGATOR.
DS_OBJ_NAME	TT_CHAR(31) NOT NULL	If this replication refers to a single, underlying data base object: name of the object Specifically, it is the name of the replicated table if ELEMENT_TYPE = 'T'. It is NULL if ELEMENT_TYPE = 'D'. DS_OBJ_OWNER.DS_OBJ_NAME need not be unique in a replication scheme, but each occurrence must be associated with a distinct ELEMENT_NAME.

Column name	Type	Description
DS_OBJ_OWNER	TT_CHAR(31) NOT NULL	The owner of the replication element – if defined NULL otherwise This is always the owner of the table. DS_OBJ_OWNER.DS_OBJ_NAME need not be unique in a replication scheme, but each occurrence must be associated with a distinct ELEMENT_NAME.
DS_OBJ_ID	TT_INTEGER for 32-bit systems TT_BIGINT for 64 bit systems	Object ID or flag If the ELEMENT_TYPE = 'T': Table ID - If the table is in the owning (master or propagator) database, then this is the table ID. 1 - Table is in the subscriber database. If the ELEMENT_TYPE = 'D': 0 - Database is a master or propagator. 1 - Database is a subscriber. NULL - Database has been migrated, restored, or upgraded from an earlier version.
DURABLE_TRANSMIT	BINARY(1) NOT NULL	Durable transaction status 0 - Transactions are not made durable before they are transmitted. 1 - Transactions are made durable before they are transmitted (default).
CONFLICT_CHECKS	BINARY(8) NOT NULL	A bit map indicating which conflict detectors are enabled 0x0000000000000000 - no configured conflict detector (default) 0x0000000000000001 - ROW TIMESTAMP conflict detector
TS_COLUMN_NAME	TT_CHAR(31)	The name of the timestamp column specified in the CHECK CONFLICTS clause of a CREATE REPLICATION statement This column must be of type BINARY(8) and permit NULL values.
TS_EXCEPTION_ACTION	TT_CHAR(1) NOT NULL	The action to take upon detecting a conflict by a timestamp-based detector The action is specified by the ON EXCEPTION clause in the CHECK CONFLICTS clause of a CREATE REPLICATION statement. They appear in this column as: '\0' - action not defined 'N' - NO ACTION 'R' - roll back transaction (default)

Column name	Type	Description
TS_UPDATE_RULE	TT_CHAR(1) NOT NULL	The rule for maintaining the timestamp for a timestamp-based conflict detector '\0' - rule not defined 'U' - by user 'S' - by system (default)
TS_REPORT_FILE	TT_VARCHAR(1000) NOT INLINE	The name of the file to which the replication agent reports timestamp conflicts This file is specified by the REPORT TO clause in the CHECK CONFLICTS clause of a CREATE REPLICATION statement.
IS_MASTER_PROPAGATOR	BINARY(1)	Indication of whether the database is both a master and a propagator
EXTERNAL_DB	TT_CHAR(1)	Indication of replication to a database that is not TimesTen NULL - no replication to another kind of database O - replication to Oracle database, which occurs in a TimesTen database with an AWT cache group
REPORT_FORMAT	TT_CHAR(1)	The report format for the replication conflict file 'S' - standard format 'X' - XML format NULL - no report file specified, therefore no format

TTREP.REPLICATIONS

The REPLICATIONS table collects together general information about all replication schemes in which the local database participates. The table indicates whether a replication scheme was created by ttRepAdmin -upgrade or by a CREATE MATERIALIZED VIEW statement.

Columns

Column name	Type	Description
REPLICATION_NAME	TT_CHAR(31) NOT NULL	Name for a replication scheme
REPLICATION_OWNER	TT_CHAR(31) NOT NULL	The replication scheme's owner
REPLICATION_ORIGIN	TT_CHAR(1) NOT NULL	How replication was created 'U' - for ttRepAdmin -upgrade 'C' - for CREATE REPLICATION (or a ttRepAdmin command that was translated into CREATE REPLICATION)
REPLICATION_VERSION	TT_INTEGER NOT NULL	The number of ALTER REPLICATION commands applied to this replication scheme after its initial creation
SOURCE_STORE_ID_ALIGN	TT_INTEGER NOT NULL	Internal use, to properly align the SOURCE_STORE_ID column
SOURCE_STORE_ID	TT_BIGINT NOT NULL	If this replication scheme was created by restoring it from a backup: the database ID of the database from which this replication scheme was backed up and restored Otherwise -1 (the invalid database ID)
CHECKSUM	TT_BIGINT	Indication of whether the replication scheme has been updated

TTREP.REPNETWORK

The REPNETWORK table stores information on interfaces used by the replication agent when two peers communicate. Each row represents a communication path between master and subscriber and describes either the sending or receiving interface used.

Columns

Column name	Type	Description
REPLICATION_NAME	TT_CHAR(31) NOT NULL	Name of the replication scheme
REPLICATION_OWNER	TT_CHAR(31) NOT NULL	The owner of the replication scheme
TT_STORE_ID	TT_BIGINT NOT NULL	Unique, system-generated identifier for a HOST_NAME/TT_STORE_NAME pair
SUBSCRIBER_ID	TT_BIGINT NOT NULL	The identifier for a database that subscribes to at least one replication element owned by TT_STORE_ID
HOST_NAME	TT_VARCHAR(200) NOT NULL NOT INLINE	Name associated with the network interface
PRIORITY	TT_INTEGER NOT NULL	Integer from 1-99 that denotes the priority of the IP address
INTERFACE	TT_CHAR(1) NOT NULL	'S' if HOST_NAME refers to an interface on the sending side 'R' if HOST_NAME refers to an interface on the receiving side

TTREP.REPPEERS

The REPPEERS table displays status information about the stores in a replication scheme. After the initial upgrade, the REPPEERS table contains peer information only about the local database and other databases that it transmits updates to.

Columns

Column name	Type	Description
REPLICATION_NAME	TT_CHAR(31) NOT NULL	Name for a replication scheme
REPLICATION_OWNER	TT_CHAR(31) NOT NULL	The replication scheme's owner
TT_STORE_ID	TT_BIGINT NOT NULL	Unique, system-generated identifier for a HOST_NAME/TT_STORE_NAME pair
SUBSCRIBER_ID	TT_BIGINT NOT NULL	The identifier for a database that subscribes to at least one replication element owned by TT_STORE_ID If a valid ID then this record describes the status of TT_STORE_ID/SUBSCRIBER_ID as a sender/subscriber pair.
COMMIT_TIMESTAMP	TT_INTEGER for 32-bit systems TT_BIGINT for 64-bit systems	Commit timestamp This field and COMMIT_SEQNUM together store the value of the Commit Ticket Number of the refreshed transaction that the subscriber has just committed.
COMMIT_SEQNUM	TT_INTEGER for 32-bit systems TT_BIGINT for 64-bit systems	Commit sequence number This field and COMMIT_TIMESTAMP together store the value of the Commit Ticket Number of the refreshed transaction that the subscriber has just committed.
SENDLSNHIGH	TT_INTEGER for 32-bit systems TT_BIGINT for 64-bit systems	The log file number of the highest TT_STORE_ID log sequence number sent to and acknowledged by SUBSCRIBER_ID
SENDLSNLOW	TT_INTEGER for 32-bit systems TT_BIGINT for 64-bit systems	The log file offset of the highest TT_STORE_ID log sequence number sent to and acknowledged by SUBSCRIBER_ID
REPTABLESLSNHIGH	TT_INTEGER for 32-bit systems TT_BIGINT for 64-bit systems	For TimesTen internal use
REPTABLESLSNLOW	TT_INTEGER for 32-bit systems TT_BIGINT for 64-bit systems	For TimesTen internal use

Column name	Type	Description
STATE	TT_INTEGER	The state of replication kept by TT_STORE_ID with respect to this SUBSCRIBER_ID 0 - START: Replication is in the active state and all log updates are retained until they have been applied at SUBSCRIBER_ID. 1 - PAUSE: Replication is not in the active state but all log updates are retained until they have been applied at SUBSCRIBER_ID. 2 - STOP: Replication is not in the active state and log updates are not retained. 4 - FAILED: Replication is not in the active state, log updates are not retained, and the log updates that need to be retained exceed the user defined threshold (TTREP.REPSTORES.FAIL_THRESHOLD). When this state has been communicated to SUBSCRIBER_ID it is changed to STOP.
TIMESEND	TT_INTEGER	The timestamp (in seconds) for the time of the last known successful transmission from TT_STORE_ID to SUBSCRIBER_ID
TIMERECV	TT_INTEGER	The timestamp (in seconds) for the time TT_STORE_ID last received a transmission from SUBSCRIBER_ID
PROTOCOL	TT_INTEGER	A number in the range 0 to 5 indicating the protocol level that replication uses for communication between TT_STORE_ID and SUBSCRIBER_ID A higher number indicates a newer protocol.
LATENCY	BINARY_DOUBLE	An estimate of the time interval (in seconds) from the commit of a transaction on TT_STORE_ID to its receipt of acknowledgement that it has been applied at the subscriber identified by SUBSCRIBER_ID
TPS	TT_INTEGER	An estimate of the number of transactions per second that are committed on TT_STORE_ID and successfully received by the subscriber identified by SUBSCRIBER_ID
RECSPERSEC	TT_INTEGER	An estimate of the number of records per second retrieved by the subscriber identified by SUBSCRIBER_ID from the database TT_STORE_ID
TRACK_ID	TT_TINYINT	ID of replication track used in user-specified parallel replication
CTNLISTINDEX	TT_INTEGER	For internal use by the replication agent

TTREP.REPSTORES

The REPSTORES table lists the replication attributes of databases that participate in every TimesTen replication scheme in which the local database participates. Each database is identified by a unique TT_STORE_ID that TimesTen replication assigns to it. A TT_STORE_ID may appear at most once for a given replication scheme, but may appear multiple times in the REPSTORES table. Various replication schemes may define different replication attributes for the same database.

Columns

Column name	Type	Description
REPLICATION_NAME	TT_CHAR(31) NOT NULL	Name for a replication scheme
REPLICATION_OWNER	TT_CHAR(31) NOT NULL	The replication scheme's owner
TT_STORE_ID	TT_BIGINT NOT NULL	Unique, system-generated identifier for a HOST_NAME/TT_STORE_NAME pair
PEER_TIMEOUT	TT_INTEGER NOT NULL	The number of seconds for this database to wait for a subscriber response before trying to reconnect
FAIL_THRESHOLD	TT_INTEGER NOT NULL	The number of log files whose accumulation makes this database, in this replication scheme, mark subscribers "failed" (See the STATE field in TTREP.REPPEERS.)
HEARTBEAT_FACTOR	BINARY_DOUBLE	A multiplier of the current heartbeat frequency

TTREP.REPSUBSCRIPTIONS

The REPSBUBSCRIPTIONS table registers each subscribing database that maintains a secondary copy of a replication element.

Columns

Column name	Type	Description
REPLICATION_NAME	TT_CHAR(31) NOT NULL	Name for a replication scheme
REPLICATION_OWNER	TT_CHAR(31) NOT NULL	The replication scheme's owner
ELEMENT_NAME	TT_CHAR(31) NOT NULL	The replication name for this element, logically distinct from the name of an underlying database object
SUBSCRIBER_ID	TT_BIGINT NOT NULL	The TT_STORE_ID for a subscriber to this element A subscriber may not subscribe more than once to a replication element in a replication scheme.
RETURN_SERVICE	TT_CHAR(1) NOT NULL	Return service for this subscriber with respect to this replication element 'C' - RETURN COMMIT 'R' - RETURN RECEIPT '\0' - no return services '2' - RETURN TWOSAFE
RETURN_BY_REQUEST	BINARY(1) NOT NULL	The type of return services for this element 0 - Return services are provided unconditionally. 1 - Return services are provided only by request. This field is ignored if RETURN_SERVICES = '\0'.
PRIVILEGES	TT_CHAR(1) NOT NULL	Privileges for this subscriber with respect to this replication element '\0' - no special subscriber privileges

TTREP.REPTABLES

The REPTABLES table contains subscriber-relative information about each of the columns in each table transmitted to a subscriber. This information appears in REPTABLES in the owner (transmitter) database but not in REPTABLES in the subscriber database.

Columns

Column name	Type	Description
REPLICATION_NAME	TT_CHAR(31) NOT NULL	Name for a replication scheme
REPLICATION_OWNER	TT_CHAR(31) NOT NULL	The replication scheme's owner
ELEMENT_NAME	TT_CHAR(31) NOT NULL	The replication name for this element, logically different from the REF_NAME of the underlying data base object For example, the ELEMENT_NAME for a replicated table may differ from the table name. This name must be unique in a replication scheme.
SUBSCRIBER_ID	TT_BIGINT NOT NULL	The TT_STORE_ID for a subscriber to this element A subscriber may not subscribe more than once to a replication element in a replication scheme.
COLNUM	TT_SMALLINT NOT NULL	Ordinal number of column in table (starting at 1)
COLOPTIONS	BINARY(1) NOT NULL	Column specification flags 0x01 - Column is in a primary key. 0x02 - Column value is varying length data type (VARCHAR[2], NVARCHAR[2], VARBINARY). 0x04 - Column value can be NULL. 0x08 - Column values are unique.

Column name	Type	Description
COLTYPE	TT_INTEGER NOT NULL	Data type of column 1 TT_CHAR 2 TT_DECIMAL 3 TT_DECIMAL 4 TT_INTEGER 5 TT_SMALLINT 6 BINARY_FLOAT 7 BINARY_FLOAT 8 BINARY_DOUBLE 9 TT_DATE 10 TIME 11 TT_TIMESTAMP 12 TT_VARCHAR 13 DATE 14 TIMESTAMP 15 NUMBER 16 CHAR 17 VARCHAR2 18 NCHAR 19 NVARCHAR2 -1 LONGVARCHAR -2 BINARY -3 VARBINARY -4 LONGVARBINARY -5 TT_BIGINT -6 TT_TINYINT -7 BIT -8 WCHAR -9 WVARCHAR -10 WLONGVARCHAR
COLLEN	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	Length of the column (maximum length for varying-length columns)
COLPRECISION	TT_INTEGER NOT NULL	Precision of column data This is the number of digits in a fixed-point number, or the number of digits in the mantissa of a floating point number.
COLSCALE	TT_INTEGER NOT NULL	Scale of column data (non-negative number) A scale of 0 indicates an integer with no digits to the right of a decimal point. For a scale of *S*, the exact numeric value is the integer value of the significant digits multiplied by: 10 (exp -S).
PTNNUM	TT_SMALLINT NOT NULL	The table partition that contains the column
PTNCOLOFF	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	The offset of the column within the partition

Column name	Type	Description
PTNNULLOFF	TT_INTEGER NOT NULL for 32-bit systems TT_BIGINT NOT NULL for 64-bit systems	The offset to the null byte within the partition
REPKEYPOSITION	TT_SMALLINT NOT NULL	The ordinal position of this column in the replication key described by the REPKEYCOLS
TS_EXCEPTION_ACTION	TT_CHAR(1) NOT NULL	The action to take upon detecting a conflict by a timestamp-based detector The action is specified by the ON EXCEPTION clause in the CHECK CONFLICTS of a CREATE REPLICATION statement. They appear in this column as: \0' - Undefined action 'N' - NO ACTION 'R' - ROLLBACK (default)
PNBOFF	TT_INTEGER	For internal use only
NULLMASK	TT_TINYINT	For internal use only
COLNAME	TT_CHAR(31)	Column name

TTREP.TTSTORES

The TTSTORES table maps the host name and database name to a unique TT_STORE_ID. The TT_STORE_ID is a foreign key for all other replication schema tables that refer to a database in a replication scheme.

Columns

Column name	Type	Description
TT_STORE_ID	TT_BIGINT NOT NULL	Unique, system-generated identifier for a HOST_NAME/TT_STORE_NAME pair
HOST_NAME	TT_VARCHAR(200) NOT NULL NOT INLINE	Name of the participating host node
TT_STORE_NAME	TT_VARCHAR(200) NOT NULL NOT INLINE	The name for this database
IS_LOCAL_STORE	BINARY(1) NOT NULL	1 if this TT_STORE_ID represents the local database 0 otherwise
MAJOR_RELEASE	TT_INTEGER NOT NULL	The major release part of this database's TimesTen release number 0 indicates the current release.
MINOR_RELEASE	TT_INTEGER NOT NULL	The minor release part of this store's TimesTen release number
REP_SCHEMA_VERSION	TT_INTEGER NOT NULL	The version of the replication schema in this database
REP_PORT_NUMBER	TT_INTEGER NOT NULL	The port number that replication uses to communicate with this database This is 0 if automatically assigned.
RRPOLICY	TT_CHAR(1)	Subscribers affected by return service failure policy Legal values are: 'S' - single subscriber 'A' - all subscribers 'N' - no policy
RRTRIGGER	TT_INTEGER	Number of timeouts before the return service failure policy is triggered
RRRESUME_LATENCY	TT_INTEGER	Resume latency in milliseconds

Column name	Type	Description
RRDURABLE	BINARY(1)	Durable commits on RETURN RECEIPT failure Legal values are: 1 - true 0 - false
RET_LOCAL_ACTION	TT_CHAR(1)	Default commit behavior for RETURN TWOSAFE transactions 'C' - COMMIT 'N' - NO ACTION
RET_WAIT_TIME	TT_INTEGER	The defaulted timeout value for RETURN TWOSAFE transactions
RET_WHEN_STOPPED	BINARY(1)	Return service status If either the replication agent for the database is stopped or if the database is used as master and the replication agent for the database is set to STOP, then if the value of the column is a non-zero value, return services for the database are suspended.
COMPRESSION	TT_CHAR(1)	Y if all data from the database is compressed
MASTER	TT_CHAR(1)	Active or standby database or subscriber database Values are: 'Y' - active or standby database 'N' - subscriber database NULL - all other cases
ROLE	TT_CHAR(1)	Role 'A' - active 'S' - standby NULL - all other cases
TS	TT_BIGINT	The timestamp at which the specified role change was made
CONFLICT_REPORT_STOP	TT_INTEGER	The threshold at which conflict reporting is stopped
CONFLICT_REPORT_RESTART	TT_INTEGER	The rate at which conflict reporting is resumed
CONFLICT_REPORT_FLUSH_METHOD	TT_INTEGER	Reserved for future use

Column name	Type	Description
TABLECHECK	TT_CHAR(1)	Indication of exact or relaxed replication E (exact) - The table structures on the master and subscriber databases must be identical for replication to occur. R (relaxed) - Replication can occur between master and subscriber if a relaxed table check has been passed. This means that the number of columns and column data types match for the tables in the master and subscriber databases. NULL (default) - This is the value for all other cases.

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